FINANCING THE FUTURE

Report of
The Commission to Promote Investment in America's Infrastructure

The Commission to Promote Investment in America's Infrastructure

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FOR THE RECORD

The Commission to Promote Investment in America's Infrastructure concentrated from the start on producing a readable, useful report that would convey some of the most up-to-date thinking about infrastructure finance. With these goals in mind, "Financing the Future: Report of the Commission to Promote Investment in America's Infrastructure" is summary in nature, though its conclusions and recommendations rest on an impressive body of information received by the Commission.

These materials are a part of the Commission record available for the public interested in a more detailed understanding of the Commission's work. For more information about proceedings and deliberations of the Commission or for information on how to obtain more copies of this report, contact the U.S. Department of Transportation.

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THE COMMISSION TO PROMOTE INVESTMENT IN AMERICA'S INFRASTRUCTURE

February 23, 1993

The Honorable William J. Clinton
President of the United States of America
1600 Pennsylvania Avenue, NW
Washington, DC 20500

The Honorable Daniel Patrick Moynihan
United States Senate
Washington, DC 20510

The Honorable Norman Y. Mineta
U.S. House of Representatives
Washington, DC 20515

The Honorable John H. Chafee
United States Senate
Washington, DC 20510

The Honorable Bud Shuster
U.S. House of Representatives
Washington, DC 20515

Dear Mr. President, Senator Moynihan,
Representative Mineta, Senator Chafee
and Representative Shuster:

We are pleased to transmit to you "Financing the Future: Report of the Commission to Promote Investment in America's Infrastructure." With the submission of this report, the Commission has met the charge given it a little over a year ago in Section 1081 of the Intermodal Surface Transportation Efficiency Act of 1991 "... to conduct a study on the feasibility and desirability of creating a type of infrastructure security to permit the investment of pension funds in funds used to design, plan, and construct infrastructure facilities in the United States. Such study may also include an examination of other methods of encouraging public and private investment in infrastructure facilities."

Throughout seven hearings and in dozens of written submissions, the Commission received appeals from every corner to bring urgency and understanding to the task of rebuilding America. We were enjoined to define infrastructure in broad terms for the future and to build a complement to existing programs and existing forms of finance. We undertook this task knowing that government resources are finite and that maximizing the potential of every dollar authorized and appropriated by Congress would be of paramount importance.

As a result, the key element of the report focuses on the vehicles which will facilitate the flow of capital, including capital from pension funds, into infrastructure investment in a manner which leverages federal dollars. If enacted into law, we believe the Commission recommendations offer the prospect of significant new project activity through a structure that has the potential to become financially self-sustaining. Our proposals will complement and strengthen, rather than replace, existing grant and municipal borrowing programs.

For public officials, particularly state and local officials, our recommendations are intended as a catalyst and an example of innovative techniques to stretch scarce resources. Institutional investors, including pension fund trustees and investment managers, will gain an opportunity to consider a new range of competitive investments on a purely voluntary basis. Pension plan participants and beneficiaries derive satisfaction from knowing their retirement assets can be invested prudently, even as they contribute in a new way to America's economic strength. Project developers will get support in the critical development phase of priority infrastructure projects. And taxpayers will get the assurance that their monies are being used wisely and efficiently to produce more infrastructure project activity.

One additional administrative note is in order here. The Commission decided early in its work not to build a large staff that would spend time administering itself. Nor did we attempt to fund another round of independent research to document ever more thoroughly everything we and our witnesses already knew. Blessed with the keen interest of the Commissioners, the cooperative spirit of our witnesses and concentrated staff work, we have completed our work within a six-month time frame and are prepared to return one-third of the Commission's budget unspent.

As Commissioners we assure you of our continued availability to respond to your interests and champion the work ahead.

Sincerely,

Daniel V. Flanagan, Jr.
Chairman

Ralph L. Stanley
Secretary

Frank Hanley
Commissioner

Neil Goldschmidt
Commissioner

Kay Bailey Hutchison
Commissioner

F. Woodman Jones
Commissioner

Francis X. Lilly
Commissioner

FINANCING THE FUTURE

REPORT OF
THE COMMISSION TO PROMOTE INVESTMENT
IN AMERICA'S INFRASTRUCTURE

FEBRUARY 1993

ACKNOWLEDGEMENTS

No effort of any consequence proceeds without the contributions of many people. First and foremost among those who contributed mightily to the work and report of the Commission to Promote Investment in America's Infrastructure are Robert E. Spring, Counsel to the Commission, Milbank, Tweed, Hadley & McCloy; Tim James, Director, Special Projects, International Union of Operating Engineers; David W. Seltzer, Senior Vice President, Lehman Brothers; John A. Howes, President, Redland Energy Group; and Megan Teeling, Administrative Assistant, The Flanagan Group, Inc. Neither the public hearings nor the day-to-day communications of the Commission could have proceeded without each one of them.

Essential to the production of this report were Elizabeth Snead, Managing Editor, and Goldstein Design, whose creative concepts and design helped bring such continuity as exists here.

Providing essential administrative support to a Commission that never slowed down, even to wait for funding, from the U.S. Department of Transportation were former Deputy Assistant Secretary Ann C. Agnew, Laurence T. Phillips, Chief of the Industry Economics and Finance Division, Gary W. McCullough and LaVonne Thompson of the Personal Property Division, and Neal C. Law, Chief of the Publications Services Branch.

There were, too, an important number of people willing to lend personal support, advice and the evaluative resources of their organizations. Without attempting to marshall the endorsements of their organizations, the Commission offers special thanks to Mary Anne Barker, Kent Burton, Cathie Eitelberg, Micah Green, Cynthia Moore, David Sand, Cathy Spain and Porter Wheeler.

The Commission acknowledges all the extraordinary efforts by these and other contributors over an often intense six-month period. With feature articles on the Commission's efforts in publications such as *Business Week* , *The Bond Buyer*, *Pensions and Investments*, *The Washington Post* and *The Wall Street Journal*, C-SPAN hearing coverage and briefings of the administration-elect's transition team in December 1992, each should derive some satisfaction from the impact of our public communications work even before this report was finalized.

Having acknowledged these contributions, however, I should note here that only the Commission is responsible for the report in its entirety.

J. Douglas Koelemay
Editor

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Financing the Future:

Report of the Commission to Promote Investment in America's Infrastructure

Executive Summary

Public sector spending on infrastructure in America amounts to more than $140 billion annually. Projections of the shortfall range from another $40 to $80 billion annually to meet critical infrastructure needs. The U.S. Environmental Protection Agency alone projects the need for $200 billion in new finance over the next decade to bring communities into compliance with existing federal mandates for clean water and clean air.

Traditional sources of infrastructure finance — government grant programs, tax-exempt bonds and private capital — all face serious impediments in filling the gap. Grants do not leverage enough project activity and the Commission found little indication that general tax increases of a magnitude sufficient to meet forecasted infrastructure development needs are likely to be forthcoming from federal, state and local sources.

Current provisions of the tax code discourage private capital flows into infrastructure development. State and local governments seeking to expand issuance of tax-exempt bonds for new infrastructure are hampered by federal laws, difficulties in finding new revenue sources, obtaining satisfactory credit ratings and limited enhancement alternatives. Project developers face procedural impediments ranging from extended permitting periods to a tight construction lending market.

Current infrastructure finance programs can be strengthened and made more effective. But as federal monies for grant programs become increasingly inadequate, states and localities will require self-renewing sources of finance built on access to large pools of capital, such as the six trillion dollars offered by institutional investors, including pension funds. For many projects, however, particularly projects with the potential to be self sustaining, but which fall into lower credit categories in the early years, access to these large pools of capital will require application of new financing techniques.

The Commission to Promote Investment in America's Infrastructure has three major recommendations to develop new financing options to facilitate access of these projects to large pools of capital.

◆ Establish a new, federally-chartered financing entity, a national infrastructure corporation.

◆ Create new investment options for institutional investors, including securities issued or guaranteed by the corporation.

◆ More consistent, uniform federal policy treatment for private investment in infrastructure development.

The new national infrastructure corporation would offer credit enhancement through a guarantor subsidiary, subordinated loans and other financial assistance through a lender subsidiary and development phase assistance through insurance-type arrangements. The Commission estimates that each new one billion dollars of federal capital in the corporation has the immediate potential to prompt $10 billion in infrastructure project activity.

In the second phase, when the Corporation has established an operating history and begins issuing infrastructure securities to pension fund and other investors, each one billion dollars of federal infrastructure money would have the potential to leverage $18 billion or more in new infrastructure project activity. If Congress devotes one billion dollars annually to this vehicle for five years, the federal government would build a self-renewing source of finance with the potential to leverage up to $100 billion of infrastructure projects.

These estimates build on three categories of recommendations adopted by the Commission after reviewing a decade of studies on infrastructure needs and hearing testimony from 46 witnesses in seven public hearings in 1992. The alternate financing mechanisms that emerge will supplement existing grant and tax-exempt bond finance programs and attract the tens of billions of new dollars annually needed to finance the future infrastructure of America. While the actual leverage ratios will vary according to assumptions on minimum capital criteria and other factors, the Commission found a clear possibility to leverage federal dollars in a self-sustaining program.

As the six trillion dollars in assets held by institutional investors continue to grow, the Commission found that investors will seek additional investment options. New investment opportunities in infrastructure projects, where pension funds now do not invest, can further diversify the investments that currently make up the majority of portfolio assets. More consistent, uniform federal tax policy treatment for private investors in infrastructure projects would prompt additional capital flows into this sector.

In making this report to the President of the United States and the Congress, the Commission meets the charge "to conduct a study on the feasibility and desirability of creating a type of infrastructure security to permit the investment of pension funds in funds used to design, plan, and construct infrastructure facilities in the United States. Such study may also include an examination of other methods of encouraging public and private investment in infrastructure facilities." The return on this financing of future investment will be a more productive, competitive and economically strong America.

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RECOMMENDATION 1.

CREATE A NATIONAL INFRASTRUCTURE CORPORATION TO LEVERAGE FEDERAL DOLLARS AND BOOST INVESTMENT IN INFRASTRUCTURE PROJECTS WITH A CAPACITY TO BECOME SELF-SUSTAINING THROUGH USER FEES OR DEDICATED REVENUES.

1.1

A national infrastructure corporation, in partnership with state infrastructure revolving funds and other local and private sources of capital, would be able to implement national infrastructure priorities, leverage more dollars with federal funds and employ innovative financing techniques to get priority projects underway.

A **national infrastructure corporation** will provide new leadership and supplementary approaches for the multiple departments, agencies and authorities involved in infrastructure finance. This federally chartered enterprise will provide a focal point for infrastructure that is essential to a timely, effective national policy response to the infrastructure financing challenge.

The corporation would be authorized to promote infrastructure investment by evaluating and offering several forms of financial assistance and technical advice to infrastructure projects with self-supporting revenue potential.

An **infrastructure insurance company**, established initially as a subsidiary of the corporation, would provide a mix of direct insurance and reinsurance to issuers of senior debt on infrastructure projects that existing bond insurers and other credit enhancers cannot or will not insure. Insured debt of projects eligible for tax-exempt financing would become more attractive to the municipal market. Insured debt of taxable-rate projects would become more attractive to pension funds and other fixed-income investors. The company would charge premiums and operate on a self-supporting basis, similar to the successful College Construction Loan Insurance Association (Connie Lee).

An **infrastructure finance division** of the corporation would use funds borrowed by or appropriated to lend directly to priority projects that have credit-worthy revenue projections, but lack historical operating results or to those that may not be able to demonstrate sufficient credit strength immediately. Such financial assistance would be available on a basis subordinated to other lenders in a manner similar to that authorized by Congress in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), but not yet utilized by the states. There are a significant number of startup projects seeking financing that lack only subordinated debt to get underway.

Subordinated debt would be recycled within a few years as projects are constructed, achieve operating stability and can be refinanced. Loan repayments would allow the corporation to function as a revolving loan fund.

A **development insurance service** would provide insurance, subject to appropriate retention of risk by the project sponsor, to cover the initial development phase of projects, where permitting, financial feasibility and regulatory approvals pose specific risks. The corporation would work to provide services to public and private project sponsors as a domestic version of the Overseas Private Investment Corporation (OPIC).

The national infrastructure corporation will seek to become self-sustaining by charging fees for its services and by receiving project loan repayments. Among the other mechanisms the corporation would consider are loan guarantees and assistance to infrastructure revolving funds and national projects where financing is scarce.

The corporation's funding activities could be leveraged further as it issues its own debt obligations to investors. This program would benefit from a limited line of credit to the U.S. Treasury, similar to other federally chartered enterprises, to expedite the entry of new investors in the near term.

Recommendation 2.
Create a new range of investment options to attract institutional investors, including pension funds, as new sources of infrastructure capital.

2.1

The national infrastructure corporation will offer institutional investors the opportunity to take equity in the infrastructure insurance company and to invest in the senior debt in taxable projects insured by the company.

Institutional investors are valuable not only as potential sources of capital, but as potential new players in infrastructure finance that can bring the discipline of investment risk and return evaluations to infrastructure decision-making.

The **infrastructure insurance company** recommended by the Commission would offer institutional investors the opportunity to participate as equity investors, along with other public or private investors, in an insurance business that would be maintained at the highest standards, with prudent credit criteria, and supported by necessary management expertise and financial performance to maintain a Triple-A rating.

As the insurance company evaluated and insured project senior debt up to the highest investment grade, institutional investors would find it easier to participate directly in project finance by purchasing long-term, taxable rate debt instruments with established credit, liquidity and rates of return.

2.2

The corporation will broaden the market in investment grade infrastructure securities to attract institutional investors, including four trillion dollars in pension fund assets, and to provide liquidity for project lenders.

The Commission's attempt to identify a new infrastructure security which would be attractive to both project borrowers and pension investors led it to consider new options for both taxable and tax-exempt rate securities. Pension funds clearly indicated the desire to have an option to invest in a new infrastructure security paying a competitive, taxable, market rate of return.

The Commission recognizes that project sponsors who are eligible for tax-exempt financing generally will seek funding in the municipal market, rather than the taxable bond market, thereby precluding any meaningful participation by pension funds and certain other institutional investors. However, there are many projects which for legal or market reasons will still seek taxable debt financing.

Aside from investing in individual project loans guaranteed through the corporation's bond insurance program, institutional investors will have an opportunity at a later stage to invest in taxable debt securities issued directly by the corporation. The corporation would use the proceeds to acquire project-specific debt, including that insured by the infrastructure insurance company.

Some securities would be general obligations when guaranteed by the corporation, while others could be pass-through securities. Such obligations of the corporation would be of federal agency caliber if the corporation had access to a limited line of credit of the U.S. Treasury. The Commission does not foresee a need for a full faith and credit guarantee from the U.S. government.

Purchases of these securities would be on a purely voluntary basis in accordance with the fiduciary duties set forth in the federal ERISA statute for private plans and comparable state and local laws for state and local government plans. Experts indicate that there are no restrictions against such investments in infrastructure securities.

2.3

A security whose tax-free benefits flow through to fund beneficiaries at the time of distribution from retirement plans could attract investments from defined contribution pension programs, 401(k) plans and individual retirement accounts.

The Commission recommends that Congress consider amending federal tax laws to allow part or all of the investment earnings attributable to infrastructure securities to be distributed tax-free to pension plan participants upon retirement. Such a tax-free pass-through from a fund to its participants would produce a competitive after-tax market rate of return for the retirement fund participants, yet allow a project to obtain funding at levels commensurate with municipal bonds.

The security could be even more attractive if it were structured as a deferred annuity, thereby satisfying both early project cash flow requirements and the typical payout profiles on pension benefits. It is noteworthy that this sort of investment security would be particularly appropriate for defined contribution and 401(k) plans, which are the fastest growing sector of retirement assets.

Recommendation 3.

Strengthen existing infrastructure financing tools and programs by making federal incentives more consistent and by providing uniform treatment for investment in infrastructure projects.

3.1

Reviewing and modifying federal restrictions on the use of tax-exempt bonds for infrastructure projects could stimulate additional infrastructure bond finance activity.

Tax-exempt bonds are used by more than 16,000 issuing authorities as primary tools for financing infrastructure projects, often supported by tolls, user charges and other dedicated funds. But the ability to utilize tax-exempt debt is circumscribed if the private sector is involved in developing or operating new facilities.

The Congress has reviewed many of these contradictory restrictions in recent months. Among the specific steps considered favorably by Congress in H.R. 4210 and H.R. 11 in 1992, but not signed into law, were provisions to increase the annual issuance limit for bank-qualified tax-exempt bonds and to expand use of private-activity redevelopment bonds in areas designated as enterprise zones.

The Commission encourages further Congressional review and modification of federal restrictions on the use of tax-exempt bonds for infrastructure projects to broaden the development options for these projects and to promote efficient allocation of federal tax expenditures.

To stimulate investment in new transportation and environmental projects, the Commission encourages consideration of a new class of tax-exempt debt, a public benefit bond, in instances where the benefits to the general public are substantial, notwithstanding private sector participation. This would have the effect of applying the definition of facilities exempt from volume cap restrictions evenly across all environmental and transportation projects.

Among the additional steps recommended to the Commission are modifying arbitrage rebate rules where proceeds return to support infrastructure projects, returning the private involvement threshold to 25 percent and changing the definition of a qualified small bond issuer for bank investment purposes to one which issues under $25 million per year.

While a full-scale study of the fiscal impact of these recommendations is beyond the scope of the Commission, the consensus of the Commissioners is that new economic activity and the attendant potential increase in federal tax revenues over the long-term may prove cost-effective from a federal budgetary viewpoint, notwithstanding any temporary costs in the near-term of actual or foregone revenues. Changes of this kind also may contribute to greater policy consistency and serve to renew cooperative effort among various levels of government in infrastructure finance.

3.2

Reviewing and making incentives for taxable infrastructure investment more consistent, particularly depreciation rules, would prompt additional capital flows into infrastructure projects.

Even with some changes to the private activity restrictions on issuance of tax-exempt bonds, the Commission concluded that a significant portion of America's infrastructure is likely to be financed in the future on a taxable-rate basis. The defined depreciable life of assets, therefore, should be short enough to encourage investments in these assets and not penalize infrastructure projects which have government participation. The concept of a shorter "useful life" may attract new investment where emerging technologies hold promise for future infrastructure efficiencies.

Introduction

"Financing the Future: Report of the Commission to Promote Investment in America's Infrastructure" is only the most current addition to a continuing national discussion on infrastructure investment and finance. It certainly will not be the last word. The debate about infrastructure finance and the appropriate roles for different levels of government and the private sector is as old as the Republic, itself.

Two hundred years ago the discussion occurred among loose and strict constructionists, federalists and states-righters over what then were called "internal improvements." The earliest prevailing view was that a federal role in internal improvements might properly exist only when projects were beyond the capabilities of the individual states and when private finance was not available. Serious questions, such as whether the Constitutional words, "promote the general welfare," could give the federal government authority to open roads and canals without the permission of states, were resolved politically for the first, though hardly the last time.

In 1802, for example, Congress approved a plan that allowed two percent of the net proceeds from the sale of public lands in Ohio to be used to finance construction of roads to Ohio and another three percent for roads within Ohio. When in March 1806 Congress authorized the beginning of the first interstate road from Cumberland, Maryland to the Ohio River, it was considered so unique that it was named, simply, "The National Road."

President Thomas Jefferson in a message to Congress later that year (December 2, 1806) set forth what became the underlying rationale for a more active, continuing federal role."By these operations new channels of communications will be opened between the States; the lines of separation will disappear, their interests will be identified, and their union cemented by new and indissoluble ties."

It was a time of innovation in the newly united several states, and pragmatists ultimately prevailed. The levels of the public sector and the private sector began to work in ever shifting partnership arrangements to provide the ports and docks, then the roads, canals, rail, highways, bridges, tunnels, mass transit and airports that make up America's infrastructure. Throughout, these efforts centered on movement of people and goods. Transportation was communications.

With America's great cities came public buildings, streets and sidewalks, housing, health facilities, power generation and distribution systems, even street lighting and signage. The public environmental structures to support a growing, spreading population provided safe drinking water, sewage systems, solid waste disposal and, now, hazardous waste management. Public finance and public operation of infrastructure facilities became the norm.

Today ideas move faster than Americans or their machines. Fiber optic lines and air waves are networks of the future. Still the questions about finance and roles and the very definition of infrastructure continue.

No one placed the question of financing the infrastructure of the future, not of the past, more forcefully than Patricia Eckert of the California Public Utilities Commission in the Commission hearing of October 30, 1992. "Is it time that we reexamine our spending paradigm?" Commissioner Eckert asked. "Are we making the most efficient spending decisions? Are there alternative infrastructure investments that will provide a greater return to society as a whole on that investment?"

"We are already in the third quarter of our information age, yet many people still refer to this as the impending information age," she continued. "The next big infrastructure push should be to build the super highways that carry information across our country and around the world."

Stephen Coyle, Chief Executive Officer of the AFL-CIO's Pension Investment Program, argued with similar conviction on October 8, 1992 for a broad definition that looks ahead and could include even the basic research facilities needed to spawn industries of the future.

Early in its deliberations, the Commission faced this need to define infrastructure in a way that would allow the Commission to make useful recommendations in a timely manner. Since the term "infrastructure" has now come to describe not only public works and facilities, but even personal skills and attitudes, this was no easy task. As was pointed out by John A. Tatom, Vice President of the Federal Reserve Bank of St. Louis on November 19, 1992, much of America's infrastructure is largely a private sector activity, including telecommunications, utilities and certain forms of transportation. But the charge of the Commission was squarely on finance and on new responses to financing needs.

The Commission chose to define infrastructure as capital-intensive, long-lived physical assets that provide benefits to the general public or promote economic development and traditionally have benefited from expanding federal grant programs. This definition includes highways, bridges and tunnels; mass transit, intercity rail and airports; waterways, docks and wharves; water, sewer and wastewater systems; and solid and hazardous waste disposal facilities.

This definition is not without a downside, excluding as it does much of the normal facilities of government and significant privately-owned assets that serve the public. The Commission certainly does not underestimate the needs in other areas, such as the estimated $125 billion shortfall in funds provided for primary and secondary school facilities or the more than $500 billion experts indicate may be necessary to link American businesses and homes with fiber optic cable.

But the Commission's ability to say something conclusive about infrastructure finance required an initial focused look at transportation and, importantly, environmental infrastructure project finance. The Commission is confident, however, that many of its conclusions and recommendations will be useful to future arrangements in other areas, such as telecommunications and pollution control facilities.

What the Commission found was a significant need to facilitate new investment to repair, renew and develop these systems for a new century. The challenge is made greater by the realization that both public and private capital are finite in a slow-growing economy. Governments continue to reduce the percentage of their resources devoted to the task. The global economy focuses on a worldwide competition for private capital.

The processes by which priorities among infrastructure needs are defined and political decisions made are often arcane and unresponsive. These processes discourage innovation, new technologies and efficiencies.

Bureaucracy, legal hurdles and delay have become risks, themselves, for project development and construction. Americans question the public sector's ability to deliver and the private sector's motives in wanting to enter the field more aggressively. And finally, federal grant programs sponsored by leading infrastructure agencies, the U.S. Department of Transportation and the U.S. Environmental Protection Agency, are reaching maturity.

All these developments invite new methods to encourage institutional investors, including pension funds to bolster our nation's infrastructural integrity. The Commission's interest in the potential for greater private financing of infrastructure projects remained focused on private capital, not on the separate and distinct question of privatization of existing infrastructure and other public assets.

At its best, America's infrastructure connects Americans, bringing new opportunities, productivity, competitiveness, pride and satisfaction. The Commission set about to produce a report and recommendations that would further these goals which remain so similar to those of the national leadership two hundred years ago — building a strong economy and welding a nation.

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Work of the Commission

The Commission to Promote Investment in America's Infrastructure was established by the Congress in Section 1081 of the Intermodal Surface Transportation Efficiency Act of 1991

"... to conduct a study on the feasibility and desirability of creating a type of infrastructure security to permit the investment of pension funds in funds used to design, plan, and construct infrastructure facilities in the United States. Such study may also include an examination of other methods of encouraging public and private investment in infrastructure facilities."

Speaker of the House Thomas Foley, Senate Majority Leader George Mitchell, House Minority Leader Robert Michel, Senate Minority Leader Robert Dole and President George Bush completed the appointment of Commission members in mid-1992. The Commissioners selected Daniel V. Flanagan, Jr. to chair its work program, which moved quickly due to the talent and varied professional backgrounds involved. Brief biographical sketches of Commission members follow this report as Appendix A.

From the beginning of its work, the Commission was determined to build on the previous research of other groups, commissions and studies. Particularly useful to the initial framing of the Commission's task were a decade of studies on the questions of infrastructure needs and infrastructure finance. Three studies are of particular importance in defining the scope of the problem.

"Delivering the Goods: Public Works Technologies, Management, and Financing," Office of Technology Assessment (April 1991)

"Fragile Foundations: A Report on America's Public Works," Final Report to the President and the Congress, National Council on Public Works Improvement (February 1988)

"Narrowing the Gap: Environmental Finance for the 1990s," Environmental Financial Advisory Board, U.S. Environmental Protection Agency (May 1992)

A longer list of studies and materials that were particularly instructive to the Commission follow in Appendix B to this report. These studies and other materials formed a working consensus from which the Commission started its work.

◆ Continued and new investment in infrastructure is vital to our nation's productivity, competitiveness and quality-of-life.

◆ New investment will require reallocations of capital, but the highest cost to Americans will be a failure to address our infrastructure needs.

◆ Our foreign economic competitors are investing heavily in their infrastructures.

The studies also prepared the Commission to consider several key needs in infrastructure finance — a need for more funds to meet growing demand, a need to stretch existing public monies across more projects and a need to get more project activity for each dollar spent.

The Commission heard from 46 witnesses in seven public sessions held in September, October and November 1992. These hearings were held in the committee rooms of the Senate Committee on Environment and Public Works, the House Committee on Public Works and Transportation, the Senate Committee on Banking, Housing and Urban Affairs and at the Departments of Transportation and Labor. Witnesses included experts from the finance, banking, pension fund, builder, academic and policy communities. A complete witness list appears in Appendix C of this report.

The witnesses who appeared before the Commission or corresponded with it presented a wide range of views and data for Commissioners to consider. All comments received proved instructive to Commissioners and the strong, often contradictory views presented gave the Commission's proceedings an energetic feel. To share some sense of the range of insights and suggestions given the Commission, this report highlights representative study passages and witness quotations on special "Voices Before the Commission" pages. These pages should inform the reader, without suggesting either Commission endorsement of each and every highlight, or witness endorsement of the Commission's conclusions or recommendations.

The Commission also held several workshop sessions, beginning with a kickoff organizational luncheon meeting hosted by Senator Daniel Patrick Moynihan and including a luncheon meeting with a dozen members of the House Committee on Public Works and Transportation hosted by Chairman Norman Mineta.

The goal of the Commission's deliberations was to establish a credible record from which to make reasoned and compelling recommendations for financing America's future infrastructure.

The Commission's work was marked by a strong sense of pragmatism. What is working? What needs to be done? What barriers need to be overcome? What new roles do the public and private sectors need to adopt? How can we set up self-renewing sources of finance? How can we leverage invested dollars? How can we turn the public perception from "public works spending" toward "investment in infrastructure?"

These questions are not rhetorical, nor are the answers mere semantics. Spending can be rationalized in dozens of ways — from political necessity and job-creation to short-term economic stimulus. Returns may be indirect, difficult to measure and, in some cases, coincidental. The term "investment," on the other hand, carries with it the understanding of a measurable return, and the expectation that the return will be positive.

In this case the return from infrastructure investment is a more productive, competitive and connected America. Keeping the focus on this return is what makes the new roles and alternate financing mechanisms recommended by the Commission part of the sensible, realistic and pragmatic solutions for the future

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Sizing the Infrastructure Financing Problem

VOICES BEFORE THE COMMISSION

SIZING THE INFRASTRUCTURE FINANCING PROBLEM

"Five out of twenty leading economists told the House Ways and Means Committee earlier this year that the main economic problem facing this country was slow productivity growth. Of those who commented on the subject, 100 percent advocated increased investment in infrastructure. Every one percent increase in investment in highways, mass transit, waste disposal and sewer facilities increases the country's rate of productivity by one-quarter of one percent. A dollar of public investment in infrastrucure can have two to five times the impact on gross domestic product as a dollar invested in factories, trucks, lathes or other private plant, property or equipment."

U.S. REPRESENTATIVE BERYL ANTHONY (D-AR)
CHAIRMAN, THE ANTHONY COMMISSION
HEARING, NOVEMBER 19, 1992

"After two years of study, the National Council on Public Works Improvement has found convincing evidence that the quality of America's infrastructure is barely adequate to fulfill current requirements, and insufficient to meet the demands of future economic growth and development."

FRAGILE FOUNDATIONS: A REPORT ON AMERICA'S PUBLIC WORKS
FINAL REPORT TO THE PRESIDENT AND THE CONGRESS
NATIONAL COUNCIL ON PUBLIC WORKS IMPROVEMENT
FEBRUARY 1988

"The real costs of environmental protection are growing rapidly. Yet our nation's ability to meet these rising costs is falling behind — and the financing gap is widening. Financial constraints threaten attainment of national environmental goals. At risk are the health of ecosystems, human health, and community well-being — in short, the quality of life in America"

NARROWING THE GAP: ENVIRONMENTAL FINANCE FOR THE 1990S
ENVIRONMENTAL FINANCIAL ADVISORY BOARD
U.S. ENVIRONMENTAL PROTECTION AGENCY
MAY 1992

"Existing federal taxes do not meet the criterion of revenue adequacy for airways — the air traffic control system. Existing fuel taxes raise less than 10 percent of spending by the Army Corps of Engineers for navigation purposes on inland waterways."

PAYING FOR HIGHWAYS, AIRWAYS, AND WATERWAYS:
HOW CAN USERS BE CHARGED?
CONGRESSIONAL BUDGET OFFICE
MAY 1992

"Therefore, the Council recommends a national commitment, shared by all levels of government, the private sector, and the public, to vastly improve America's infrastructure. Such a commitment could require an increase of up to 100 percent in the amount of capital the nation invests each year in new and existing public works."

FRAGILE FOUNDATIONS: A REPORT ON AMERICA'S PUBLIC WORKS
FINAL REPORT TO THE PRESIDENT AND THE CONGRESS
NATIONAL COUNCIL ON PUBLIC WORKS IMPROVEMENT
FEBRUARY 1988

"Reversing the downward trend in public works outlays will not be easy. It will require fundamental changes in government policies and spending priorities and these do not happen quickly."

DELIVERING THE GOODS: PUBLIC WORKS TECHNOLOGIES,
MANAGEMENT, AND FINANCING
OFFICE OF TECHNOLOGY ASSESSMENT
APRIL 1991

CONCLUSION 1.

There is a wide gap in the level of current public infrastructure finance and projected needs. Capital-intensive, long-term projects with histories of federal and state grant financing — particularly environmental projects — face immediate financial shortfalls.

The Office of Technology Assessment's (OTA) 1991 study, "Delivering the Goods: Public Works Technologies, Management, and Financing," estimated the value of the capital stock represented in the nation's roads, bridges, mass transportation, airports, ports, and waterways; and water supply, wastewater treatment, and solid waste disposal facilities approximately $1.4 trillion, slightly over 20 percent of the country's total public and private capital stock.

Sources of infrastructure finance range from a variety of general revenues, excise taxes and fees levied on users through grants, borrowings and private finance. The OTA study estimated that federal, state and local governments spend about $140 billion annually on building, operating and maintaining these infrastructure facilities.

From the beginning of its deliberations, the Commission was made aware of the difficulties inherent in simply maintaining such a huge number of facilities even without considering the expansion of these transportation and environmental networks.

In the aggregate, federal spending devoted to infrastructure investment as a percentage of gross national product has declined steadily for a quarter of a century, while federal spending in other areas has continued or grown.

John A. Tatom of the Federal Reserve Bank of St. Louis presented the Commission with estimates that 80 percent of the public, nonmilitary stock and investment historically has come from state and local governments. While the federal capital stock per capita has remained fairly constant, Mr. Tatom concluded, it is state and local capital formation that has slowed considerably.

A year ago, the U.S. Conference of Mayors released reports identifying 7,252 infrastructure projects "ready to go" in 506 cities. The total, multiyear cost of the projects, according to the Conference compilation, is $26.7 billion.

In January 1993 leaders of the National Association of Counties, the National Association of Towns and Townships and the National Association of Development Agencies released a similar study showing $2.8 billion of unmet infrastructure needs in 37 states. A joint study by these groups noted that more than half of the nation's 3.1 million miles of rural roads are unpaved, that 180,000 bridges need repair and that three-quarters of wastewater facility needs are in rural communities with fewer than 10,000 persons.

Public spending on infrastructure may total over $140 billion annually, but projections of need in various studies, including "Fragile Foundations: A Report on America's Public Works," range from $40 to $80 billion more annually. The "Delivering the Goods" report from OTA in 1991 laid out a list of priorities where a 20 percent increase in federal infrastructure spending would accomplish the most.

FEDERAL INVESTMENT IN INFRASTRUCTURE
(IN BILLIONS OF 1990 DOLLARS, BY FISCAL YEAR)

YEAR	HIGHWAYS	TRANSIT	SEWAGE	AVIATION	WATER	RAIL	TOTAL	SHARE OF ALL FEDERAL OUTLAYS
1956	$3.5	•	•	$0.1	$2.3	•	$6.2	2.0%
1960	12.4	•	$0.2	0.7	3.4	•	16.7	5.0
1965	16.0	•	0.3	0.6	4.4	•	21.8	5.5
1970	13.7	$0.4	0.7	0.6	3.3	•	19.0	3.7
1975	9.7	1.8	4.2	1.1	4.1	$0.4	22.1	4.1
1980	12.2	2.7	6.4	1.2	4.7	1.7	29.6	4.7
1981	11.2	3.2	5.4	1.0	4.1	0.6	25.6	3.9
1982	9.5	3.2	5.1	0.8	3.8	0.6	23.6	3.4
1983	10.6	3.4	4.0	1.0	3.2	0.5	23.3	3.0
1984	12.2	3.7	3.4	1.2	3.3	0.5	25.0	3.0
1985	14.3	2.7	3.6	1.4	3.3	0.4	27.7	3.1
1986	15.4	3.0	3.7	1.8	3.1	0.1	29.0	3.3
1987	13.6	2.8	3.2	2.0	2.5	0.2	25.1	2.9
1988	14.5	2.5	2.8	2.1	3.0	•	25.3	2.8
1989	13.5	2.7	2.5	2.3	3.1	•	24.2	2.6
1990	14.0	3.1	2.5	2.6	3.3	•	25.7	2.5
1991	14.0	3.2	2.6	3.0	3.0	0.2	26.3	2.4

• less than $50 million

SOURCE: Congressional Budget Office

Priorities for Increased Annual Federal Infrastructure Spending

(*) Star indicates priorities for largest increases.

	1989 Federal Spending[A] (in billions of dollars)	20-Percent Increase in Spending[B] (in billions of dollars)
Surface Transportation Total	$17.9	$21.5
Highways and Bridges	3.6	
* Maintain and improve condition of existing facilities.		
* Expand system capacity through implementation of existing traffic management techniques, HOV and smaller lanes,signalization, automated toll facilities.		
R&D on advanced technologies, e.g., intelligent vehicle/highway systems.		
Improve intermodal connections		
Mass Transit	3.5	
* Expand transportation system capacity and efficiency by adding transitways and improving intermodal connections, stations, terminals, and parking facilities.		
Modernize equipment and rehabilitate rails.		
Rail (Passenger)	0.6	
Modernize capital equipment.		
* Implement high-speed rail in overcrowded corridors.		
Airports and Airways Total	6.6	7.9
Complete National Airspace System Plan, expand system capacity through other advanced surveillance, guidance, and communications technologies.		
Expand system capacity with airport and runway construction.		
Improve intermodal connections.		
Ports and Waterways Total	1.0	1.2
Continue to maintain and rehabilitate existing facilities.		
Expand capacity on a selective basis.		
Improve landslide (intermodal) connections.		
Address environmental issues.		
Transportation Total	25.5	30.6
Environmental Public Works Including Wastewater and Drinking Water	2.8	3.4[C]
Construct, rehabilitate, and upgrade treatment facilities and collection and distribution systems,especially in large, older cities and small communities.		
* R&D of low-cost technology and technical assistance for small communities and to overcome widespread resistance to innovation.		
Data collection and analysis of environmental system risk and assessment of regulatory consequences.		
Total Federal Spending	28.3	34.0
Total All Levels of Government	**140.0**	**168.0**

[A]Federal spending totals include some non-infrastructure expenditures, such as for safety.

[B]A 20 percent increase is hypothetical. However, for surface transportation, it approximates the impact the spending the current Highway Trust Fund balance over a 5-year period.

[C]Because Federal budget projections forecast decreased funding for environmental public works, $3.4 billion would be more than a 20 percent increase over current plans for Federal spending.

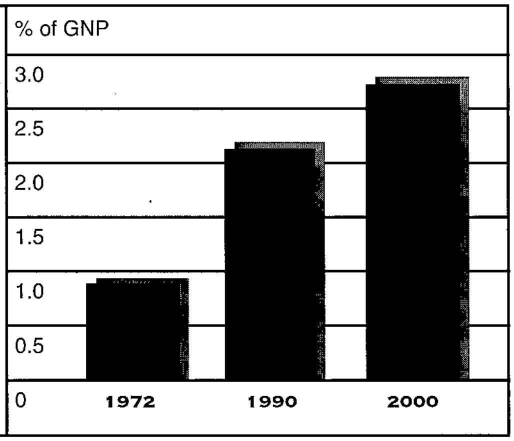
Source: Office of Technology Assessment, "Delivering the Goods," 1991.

The U.S. Department of Transportation estimates that to improve the national highway system to meet traffic and safety standards at all levels of government could require twice the $36 billion now spent annually on highways, bridges and tunnels. The Federal Highway Administration estimates that without additional funds, it will forego the construction of 34,000 lane miles of needed new highways over the next 10 years.

In its 1990 report to Congress, "Environmental Investments: The Cost of a Clean Environment," the U.S. Environmental Protection Agency estimated there are up to $200 billion worth of improvements needed to bring states and localities into full compliance with current clean air and clean water mandates. These environmental projects that required 2.2 percent of GNP in 1990 would require 2.8 percent of GNP in 2000. The budget authorization of EPA's major grant programs concludes in fiscal year 1994.

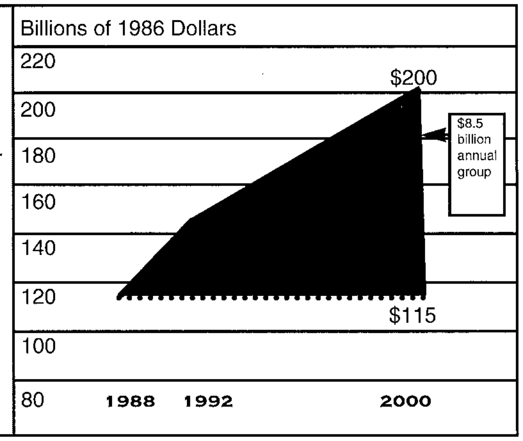
"The conclusion we obviously reach," Christian Holmes, Assistant Administrator and Chief Financial Officer at the U.S. Environmental Protection Agency, told the Commission at a hearing on October 29, 1992, "is that the financing isn't out there right now to be able to meet these tremendous needs in infrastructure, particularly as we look at the waste water treatment facilities, which are in a variety of states of repair throughout the country."

Environmental Expenditures as a Percentage of GNP 1972-2000



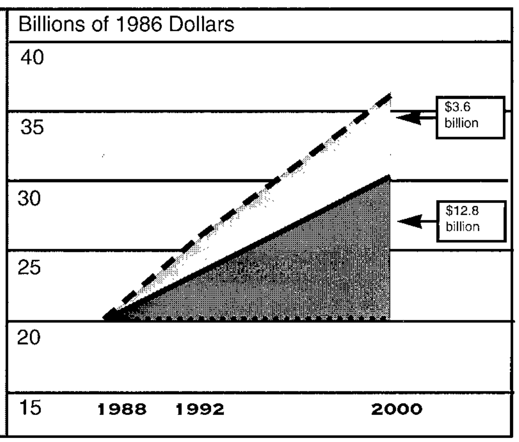
Gap in National Investment Needed to Meet Environmental Goals 1988-2000

To maintain standards and meet new requirements
1988 investment level



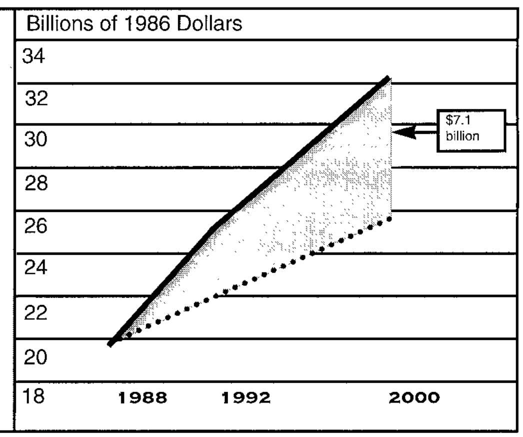
Annual Local Investments Needed to Meet Environmental Goals 1988-2000

To meet new requirements
To maintain standards
1988 investment level



Local Costs Compared to GNP

Growth in Costs
Growth in GNP



Source: Environmental Financial Advisory Board-Progress Report, May 1992

The gap between our infrastructure needs and our provision for those needs has been studied, and remedial actions have been advocated at great lengths by numerous bodies, including various committees of the Congress. The Commission found no indication, however, that general tax increases of a magnitude sufficient to meet forecasted infrastructure development needs are likely to be forthcoming from federal, state or local sources, particularly if projects continue to be financed on a grant basis.

The Commission also found that current provisions of the tax code discourage private capital investment in infrastructure development.

As federal monies for grant programs diminish, states and localities will require self-renewing sources of finance built on access to large pools of new capital, such as the six trillion dollars held by institutional investors, including pension funds.

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Voices Before the Commission
Weighing the Current Alternatives

"We have had policies on infrastructure for 100 years with federal subsidies, federal policies and federal agencies, but they have not been coordinated or ultimately as effective as they could have been."

Philip Shapiro
Chief Financial Officer, Massachusetts Water Resources Authority
Hearing, October 29, 1992

"We have special interest funding for infrastructure and a lot of that is a governance issue at the federal level. But you look from afar and you can do all the regulations you want, but if there is no national policy and no way to get there, then it probably will go for naught."

Stephen S. Smith
Deputy State Treasurer, Oregon
Hearing, October 30, 1992

"My concern is that we have reached the limits of political and public will to finance any of these projects. Until we build a political will, we will be struggling for creative ideas that will help, but not to the degree that's necessary."

Robert L. Mitchell
Former Chairman, Michigan Task Force on Public Investment
Hearing, October 29, 1992

"Tax-exemption of municipal bonds is one of the most important sources of federal aid for state and local governments. Every year, the federal government provides millions of dollars in aid to states and localities through tax-exemption while incurring no administrative or overhead costs."

Michael E. Dougherty
Chairman, Public Securities Association
Letter, September 22, 1992

"In seeking federal support for important public projects and services, state and local governments increasingly have been treated like 'just another special interest group,' rather than as a partner in the federal system of government. This is fundamentally, conceptually and historically wrong. It also reflects the increasingly adversarial relationship spawned by a perception of 'abuses' in the issuance of tax-exempt bonds and the increasing and sometimes short-sighted preoccupation of the national government with its own deficit problem."

Preserving the Federal-State-Local Partnership: The Role of Tax-Exempt Financing
Report of the Anthony Commission on Public Finance
October 1989

CONCLUSION 2.

Current infrastructure finance programs — government grant programs, the tax-exempt bond market, government tax programs — can be strengthened and made more effective.

General federal tax revenues universally are considered to be insufficient to the task of new infrastructure investment in a period to be devoted to deficit reduction. New federal deficit estimates for FY1993 now top $327 billion. State and local governments confront this same situation in which only discrete, limited tax increases seem possible.

Even the record $151 billion transportation authorization by the Congress in 1991 doesn't mask the difficulties in raising public funds through taxation. Monies appropriated to date have been less than those authorized.

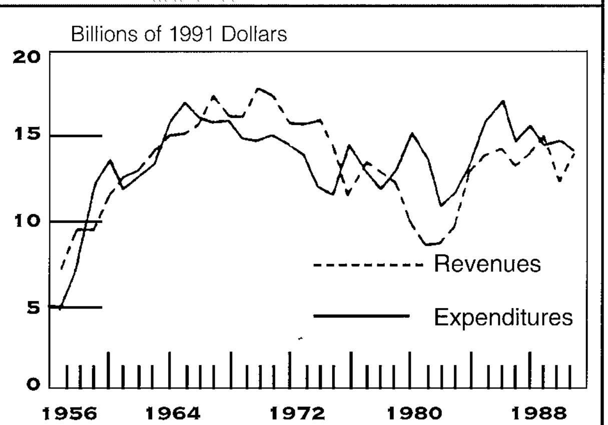
There are disturbing and continuing fluctuations in federal transportation trust fund revenues and expenditures. Unobligated balances of dedicated trust fund revenues, for example, can be counted as deficit reduction items. The Congressional Budget Office 1992 study, "Paying for Highways, Airways and Waterways," documented these fluctuations and concluded that existing federal taxes do not meet the criterion of revenue adequacy for airways — the air traffic control system — and that existing marine fuel taxes raise less than 10 percent of spending by the Army Corps of Engineers for navigation projects on inland waterways.

With continued constraints on grant financing and new tax revenues, state and local governments have increased their reliance on debt financing. Tax-exempt bonds are seen as a cost-effective, familiar method of financing infrastructure needs. By lowering interest rates on state and local borrowing, the federal tax-exemption enables issuers to leverage state and local resources.

According to the Public Securities Association (PSA), low interest rates and a demand for capital sent long-term tax-exempt bond issues to a record volume of $233 billion in 1992. New capital issuance was estimated at $138 billion for 1992, about 59 percent of total issuance. The rest were refinancings prompted by relatively low interest rates. The PSA projects that new capital issuance may actually decline slightly in 1993 to $135 billion.

Further, as figures compiled by Securities Data Corporation show, tax-exempt bond issues for

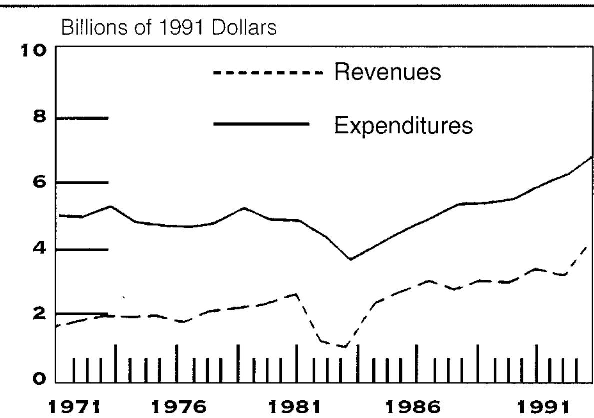
FEDERAL HIGHWAY EXPENDITURES AND TRUST FUND REVENUES, 1957-1991



SOURCES: Congressional Budget Office and "Historical Tables" of the *Budget of the United States Government: Fiscal Year 1992.* GNP deflator from the *Economic Report of the President, February 1991.*

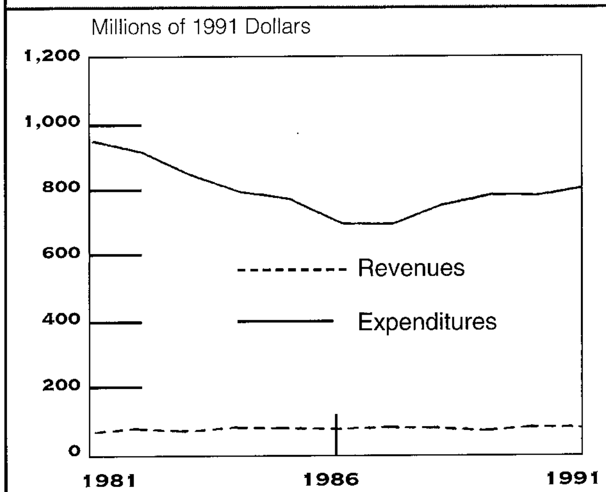
NOTE: Figure 1 shows only revenues that go to the highway account of the Highway Trust Fund.

FEDERAL AVIATION EXPENDITURES AND TRUST FUND REVENUES, 1971-1991



SOURCES: Congressional Budget Office and "Historical Tables" of the *Budget of the United States Government: Fiscal Year 1992.* GNP deflator from the *Economic Report of the President, February 1991.*

FEDERAL INLAND WATERWAY EXPENDITURES AND TRUST FUND REVENUES, 1981-1991



SOURCES: Congressional Budget Office; Army Corps of Engineers, *1990 Inland Waterway Review* (draft); and "Historical Tables" of the *Budget of the United States Government: Fiscal Year 1992.* GNP deflator from the *Economic Report of the President, February 1991.*

infrastructure as defined by the Commission can be a small portion of total issuance. In 1992 only $34.2 billion, or about 15 percent of total tax-exempt issuance for the year, was net new money for infrastructure investment — about $16.6 billion for transportation, $11.0 billion for water and sewer facilities and $6.5 billion for environmental control and economic development.

Though tax-exempt bonds are seen as the most efficient method of finance for much of America's infrastructure needs, there are legal, policy and market constraints on the municipal bond market in filling the gap.

Provisions of the 1986 Tax Reform Act, for example, impose caps on the total volume or prohibit altogether the use of municipal bonds for certain purposes that had varying degrees of private involvement in their ownership and operation. Backers of the restrictions were concerned that the tax revenues foregone on the tax-exempt interest paid to investors were increasing the federal deficit. These so-called "private activity" bond rules affect many of the public-private partnerships seeking to sponsor new infrastructure projects in innovative ways. The act applied the volume cap to a wide range of infrastructure projects, including mass commuting, water, sewage, solid waste and hazardous waste facilities and it removed incentives for commercial banks to buy and hold certain tax-exempt securities.

For their part, states often limit the number of authorized issuers of municipal bonds and dictate complex political procedures to be followed in approving such issues. Tax-exempt bond issuers, themselves, often impose limits on their own offerings to maintain their credit ratings at certain levels or to avoid tackling the difficult revenue-producing measures needed to support additional capital investment.

William Chew, Managing Director for Municipal Finance at Standard and Poor's Corporation told the Commission on September 25, 1992 that problems in financing infrastructure projects are related to the "limited borrowing capacity of those charged with infrastructure development, particularly states and municipalities and related entities."

Mr. Chew continued, "The good news is that we have developed here in the U.S. one of the most successful methods of infrastructure finance — the municipal bond market. The bad news is that the credit capacity of some of the basic workhorses of that market has reached its limits."

Bond issuers at mid- or at lower-investment grades can lower costs of borrowing by applying for bond insurance from a small number of bond insurance companies. These companies guaranty investment–grade bond issues that they do not expect to default.

Investor credit concerns have driven a record volume of bond insurance enhancements, particularly for the three industry leaders, Municipal Bond Investors Assurance Corporation, AMBAC Indemnity Corporation and Financial Guaranty Insurance Association, which issue between 80 and 90 percent of new insurance.

Fitch's Investor Services in a September 8, 1992 report, however, also described these three insurers as leaders in minimizing overall portfolio risk. The result is that a substantial number of potential bond issues for important infrastructure projects rated initially at lower-investment grades cannot get the bond insurance they need.

Advocates of efforts to strengthen the tax-exempt market, such as the Anthony Commission on Public Finance and the Rebuild America Coalition, note that tax-exempt bond financing can reduce the cost of capital by 25 to 30 percent from taxable rates. It typically allows combined construction and permanent financing. It offers an established market for revenue bond financings backed by user fees and, in many instances has more favorable borrowing terms than conventional lending sources, which may require rapid amortization, substantial equity infusions or stringent loan-to-value collateral ratios.

However, because tax-free municipal bonds generally pay lower interest rates than alternative, taxable instruments, investors who already enjoy tax-exempt status, such as pension funds, have a hard time justifying investments that offer the lower rate of return.

The Commission did learn, however, that tax-exempt financing is not the sole determinant of infrastructure project financial feasibility. To the contrary, project builders, including John D. Carter, President of Bechtel Enterprises, in a letter to the Commission dated September 17, 1992, conclude that taxable rate bank financing is feasible for projects and that "it would seem that taxable financing from institutional investors would be equally possible."

There is a cost differential between projects financed with tax-exempt bonds and those financed at taxable rates. Consumers or taxpayers in each case make the determination as to the advisability of using higher rates of borrowing to finance needed projects. The Commission believes that in many cases the higher costs can be justified if all economic factors are gathered for consideration, including the broad benefits of meeting public needs sooner. The opportunity costs incurred from avoidable delays, environmental damage, public health impacts, etc. that occur when infrastructure projects are delayed indefinitely may be higher than the additional financing costs incurred.

1992 Tax-Exempt Debt Issuance for Infrastructure

Category		New Money ($ in billions)
Environmental		**$6.5**
Solid Waste	$ 1.8	
Pollution Control	$ 1.8	
Recycling	$ 0.2	
Economic Development (Including some pollution control)	$ 2.7	
Transportation		**$16.6**
Airports	$ 5.6	
Highways	$ 5.6	
Bridges & Tunnels	$ 1.0	
Transit	$ 3.7	
Seaports	$ 0.3	
Other	$ 0.4	
Utilities		**$11.0**
Water & Sewer	$ 10.1	
Combined Utilities	$ 0.4	
Other	$ 0.4	
Total New Money Infrastructure		**$34.2***

SOURCE: Securities Data Corporation, Volume Summary of 1992 Bond Issues.

* Excluded from this total are facilities backed by general government taxes, including $22.9 billion for education, $11.8 billion for health, $8.7 billion for housing, $35.2 billion for general government and $2.8 billion for recreation.

The Commission concluded that traditional sources of finance for infrastructure are and will remain vital parts of the infrastructure financing equation and that they should be strengthened wherever possible. The municipal bond market has absorbed increasing volumes in recent years. The Commission, however, found no indication that states and localities can support or will seek some multiple of these already record volumes of tax-exempt bond issuances in the foreseeable future. However, a portion of these projects are likely to move to a taxable-rate funding basis as they are not accepted by the municipal market.

Further, certain types of infrastructure projects, such as telecommunications or air and water pollution control facilities for businesses, may never be eligible for tax-exempt financing. These and similar types of taxable debt projects could benefit by drawing from large and, heretofore, untapped sources of capital — large institutional investors, including pension funds, with their six trillion dollars in assets.

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Voices Before the Commission

Considering the Prospects for Pension Funds

"The nature of infrastructure investment and its impact on our nation's economic health are for the most part long-term concerns. Since pension fund trustees must also have a long-term investment perspective, this makes them well-suited to participate in a long-term growth plan."

THOMAS R. DONAHUE
SECRETARY-TREASURER, AFL-CIO
HEARING, NOVEMBER 19, 1992

"The other pension reality missed by ERISA is that pension funds are no longer mere market participants: Their size and concentration causes them to make markets. Pension funds rival banks and S&Ls in size and can make or break entire classes of investments if they are biased for or against them."

TERESA GHILARDUCCI, PH.D.
ASSOCIATE PROFESSOR OF ECONOMICS, UNIVERSITY OF NOTRE DAME
HEARING, NOVEMBER 19, 1992

"As long as trustees are loyal to participants and invest for their exclusive benefit, they should be free to seek investments which generate economic benefits for their region or industry. To the extent that their search for (or willingness to examine) non-traditional investments overcomes subtle rigidities in our capital markets and results in financing worthy investments which might not otherwise be funded, it benefits society as well as their plan participants. When such investments carry unusual risks or the collateral benefits flow to people outside the plan, pensions should not shoulder the risk directly, but should use financial engineering to create sound pension assets through partnerships with other interested parties, who have greater capacity to absorb these risks."

ECONOMICALLY TARGETED INVESTMENTS: AN ERISA POLICY REVIEW
REPORT OF THE WORK GROUP ON PENSION INVESTMENTS
ADVISORY COUNCIL ON PENSION WELFARE AND BENEFIT PLANS,
U.S. DEPARTMENT OF LABOR
NOVEMBER 1992

"Stimulating pension fund investment in infrastructure will require a new policy framework — a broader definition of the infrastructure of the future, a better sense of priorities, appropriate government guarantees and dedicated revenues, a secondary market mechanism and greater leveraging of local public and private contributions. Informing and educating pension funds to the point where they are ready to consider infrastructure investments will be hard given fluctuations in the economy, the uncertainty of whether projects will go forward, variations in factors on which user-fee revenue projections are based and the poor planning evident in most states and localities."

STEPHEN COYLE
CHIEF EXECUTIVE OFFICER, AFL- CIO PENSION INVESTMENT PROGRAM
HEARING, OCTOBER 8, 1992

CONCLUSION 3.

The relative complexity, tax status and other factors currently make infrastructure investment unattractive to certain institutional investors, including pension funds.

Goldman Sachs estimates that institutional investors, including private pension funds, public pension funds, life and other insurance companies, mutual funds, security brokers and dealers and foreign investors have about six trillion dollars in assets. These assets grew at an average of 11.4 percent annually from 1968 to 1990.

SHARE OF TOTAL ASSETS BY FINANCIAL SECTOR: SELECTED YEARS 1966-92

	1966	1972	1978	1984	1989	1992
Commercial Banks and S & Ls	58%	58%	61%	57%	50%	42%
Insurance (w/o Pension Reserves)	17	14	12	13	11	12
Pension Funds[1] (including insured)	15	16	19	21	26	36
Others[2]	10	9	11	9	8	11

1. Pension funds include life insurance company pension reserves, private pension funds and public pension funds.

2. Other includes finance companies, mutual funds, REITs, security brokers and dealers and insurers of securitized deposits.

SOURCE: Federal Reserve Board Flow of Funds Accounts, Financial Assets and Liabilities, Year End, 1991.

Assets in the more than 22,000 corporate, public and union retirement plans in the United States total more than four trillion dollars. Pension fund assets are roughly equivalent to the value of common shares trading in the stock market. They approach the level of total banking assets in America. These assets have grown steadily and now comprise an enormous source of capital. In 1992 pension fund assets represented over 30 percent of all financial assets in America.

Pension funds are not only significant sources of capital, but are also sources of current income for millions of Americans. Joseph Pellegrino, Vice President of the Aluminum Company of America, told the Commission on October 8, 1992 that 1990 pension funds distributions of $234.3 billion in retirement benefits exceeded Social Security Old Age and Survivor distributions of $223 billion by five percent and that benefits from privately sponsored pension plans constituted 60 percent of all pension payments.

The pension funds are invested in a variety of assets, but are concentrated overwhelmingly in publicly-traded stocks and fixed-income securities. According to estimates provided by Greenwich Associates, a pension consulting firm, to *The Wall Street Journal* in January 1993, ownership of foreign stocks is growing for both corporate and public funds, $31 billion in new international stock market investments in 1992 alone.

Industry projections indicate that retirement funds will grow at an average compound rate of 8.7 percent over the next five years. The fastest growing sector, according to the Lehman Brothers analysis, is the one trillion dollars of defined contribution plans, and in particular the 401(k) plans, which presently account for $259 billion of the total and are expected to increase at a rate of 15 percent per year.

Pension fund capital has been built, in part, on the tax laws of the federal government. In fact, business deductions for pension contributions and tax-exempt status for pension fund earnings together constitute the largest tax expenditure in the federal budget.

The staff of the Joint Committee on Taxation estimated in an April 24, 1992 report, for example, that the net exclusion of pension contributions and earnings from taxation would cost $56.5 billion in FY1993, rising to $66 billion in FY1997. The study also indicates another approximate $10 billion per year in tax expenditures for defined contribution plans — individual retirement accounts and Keogh plans. This continued level of tax expenditure, $306 billion over the next five years, is often justified in part by the capital formation benefits offered by pension funds.

1991 COMPARATIVE ASSET MIX
CORPORATE, PUBLIC AND UNION PLANS
(DEFINED BENEFIT PLANS ONLY)

CATEGORY	CORPORATE	PUBLIC	UNION
Stocks	54.4%	40.9%	41.3%
Fixed Income*	32.5	46.5	41.8
Cash	5.8	5.0	5.4
Real Estate Equity	4.1	3.9	5.1
Mortgages	0.3	2.0	2.6
GICs/BICs	0.9	0.2	1.7
Annuities	0.1	0.0	1.2
Other	1.9	1.5	0.9
	100%	100%	100%

*Including mortgage-backed securities
SOURCE: *Pension & Investments* Magazine

The Commission was reminded, of course, that pension funds already invest heavily in America, providing capital to the marketplace, creating jobs and producing wealth. But pension funds, even through what are termed economically-targeted investment strategies, have yet to participate in a meaningful way in infrastructure finance.

Lehman Brothers research for the Commission revealed no specific reference in pension fund literature to any economically-targeted investments which would fit the Commission's working definition of transportation and environmental infrastructure. The firm also presented the results of a survey of the 200 top pension funds by the trade publication, *Pensions and Investments,* representing $1.7 trillion of mostly corporate and public funds which similarly indicates virtually no infrastructure investment activity. The periodical's survey did show, however, substantial amounts ($65 billion of public and $80 billion of corporate funds) allocated to other non-traditional investments, such as venture capital, leveraged buy-outs, foreign equities and non-investment grade bonds.

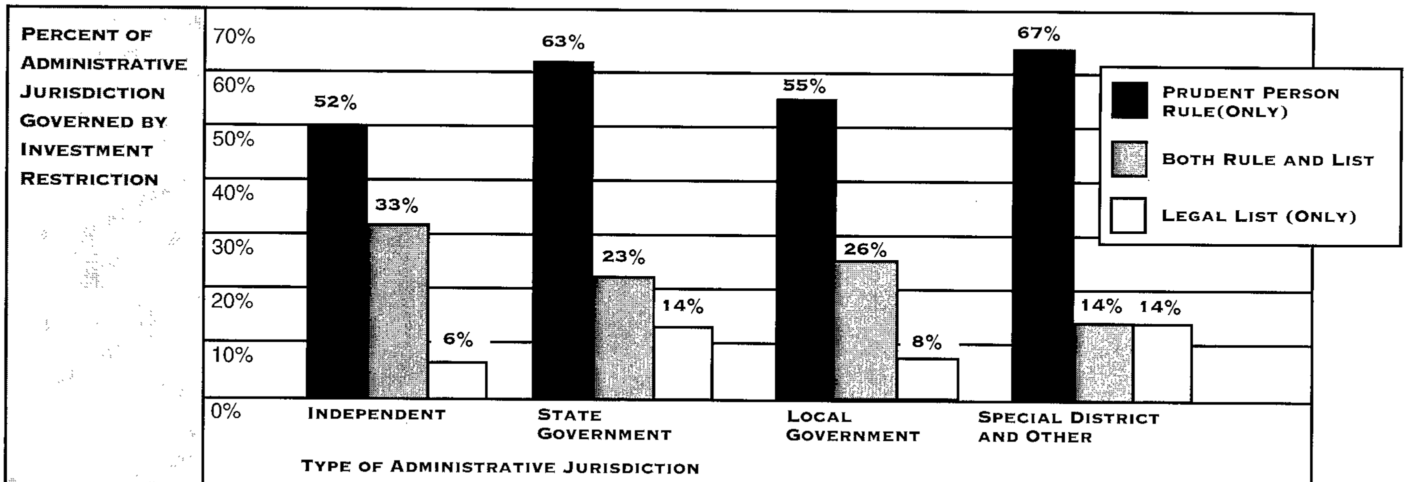
Traditional public financing of infrastructure projects often involves financial instruments that contain tax-free features and offer, thereby, lower interest rates. Because pension plans generally have full tax-exempt status, they cannot benefit economically from exemption from taxation. Pension funds, therefore, have difficulty justifying investments in instruments paying lower interest rates than alternative, taxable instruments.

The federal Employee Retirement Income Security Act of 1974 (ERISA) sets out primary fiduciary responsibilities for private pension funds. Under ERISA, fiduciaries must act solely in the interest of the plan participants and for the exclusive purpose of providing benefits and defraying reasonable costs; act prudently; diversify plan investments; not cause the plan to engage in prohibited transactions involving "parties in interest;" and not engage in self-dealing or conflict-of-interest transactions involving plan assets.

1991 COMPARATIVE ASSET MIX
CORPORATE, PUBLIC AND UNION PLANS
(DEFINED CONTRIBUTION PLANS ONLY)

CATEGORY	CORPORATE	PUBLIC	UNION
Company Stock	30.6%	N/A	N/A
Other Stock	15.2	23.9%	21.0%
Fixed Income*	13.9	38.8	14.3
Cash	6.4	13.9	48.7
GICs/BICs	30.7	23.4	11.7
Annuities	0.0	0.0	0.0
Other	3.2	0.0	4.3
	100%	100%	100%

*Including mortgage-backed securities
SOURCE: *Pension & Investments* Magazine



SOURCE: Survey of States and Local Government Employee Retirement Systems, Public Pension Coordinating Council, November 1991

The Commission heard testimony from a variety of experts, however, that nothing in ERISA prohibits pension fund investments in infrastructure projects. Several witnesses, in fact, indicated that no changes in ERISA or the comparable state and local laws would be necessary if an infrastructure investment vehicle pays an appropriate rate of return relative to risk, furthers portfolio diversity and offers sufficient liquidity.

Marshall Breger, Solicitor, U.S. Department of Labor told the Commission on October 30, 1992, "As the chief legal officer of the Department of Labor, I can tell you that nothing in ERISA's fiduciary provisions specifically prevents a pension plan from investing in infrastructure facilities. But like any other pension plan investment, it has to be done right."

Although not formally subject to ERISA, state and local retirement systems already generally conform to ERISA guidelines and function within a strict framework of state and local laws that regulate pension investments and investment decisions. A 1991 survey of the Public Pension Coordinating Council and a 1992 survey by the National Council on Teacher Retirement both noted the non-federal statutory investment restrictions often included the "prudent person" standard, requiring that investments be made with the "care, skill and diligence" of a prudent individual. That standard is often supplemented with "legal lists" specifying the types of investments and, in some cases, the percentage of retirement system assets that may be made in any one type of investment.

The National Council on Teacher Retirement report, "Fiduciary Duties and Other Laws Applicable to Public Retirement Systems" concluded that the state laws governing state retirement system fiduciaries are detailed and comprehensive; that remedies for breaching fiduciaries exist across the board; and that the existing framework provides great protection that safeguards the assets of the systems for the benefit of their participants.

Within the federal ERISA statute and comparable state and local laws, pension funds now diversify across a wide range of investment opportunities, including relatively riskier investments offering a higher rate of return. Long-term and short-term fixed-income securities, domestic equities, equity and debt positions in real estate, foreign debt and other investments even as risky as venture capital are considered appropriate within the context of particular, diverse portfolios.

PUBLIC FUNDS ASSET ALLOCATION (BY%)

(IN BILLIONS OF DOLLARS)

		Distribution of Assets			
Year	Total Assets	Equities	Bonds	Cash	Others
1950	$4.9	1%	95%	2%	2%
1960	19.7	3	88	1	7
1970	60.3	12	72	1	10
1980	198.1	22	70	2	5
1989	721.3	39	55	4	2
1991	879.0	41	49	5	5
1992	1245.0	45.7	40.6	4.2	4.6

SOURCE: Employee Benefit Research Institute (1992 Data from *Pensions and Investments* magazine.)

Historically, as pension funds and pension fund managers have become more familiar and more comfortable with new types of investments, they have shifted the relative weight of investment opportunities in their portfolios. The substantial increases in public pension fund equity securities holdings in the 1980s are one example.

More recently pension funds have been active and successful in making economically-targeted investments and in launching in-state investment programs in non-infrastructure areas, such as housing and small businesses. The Commission heard first-hand of successful special investment efforts in Colorado and Oregon and in the successes of union pension funds in real estate development investments that provide a competitive rate of return commensurate with the inherent level of risk, while creating innovative jobs.

> "The decision-making process for in-state investing focuses mainly in the bond or fixed-income portfolio and through venture capital in the alternate investment portfolio. Five percent of our $12 billion is earmarked for alternative investments — venture capital, leveraged buy-outs, timber and we're looking at oil and gas."
>
> **Norman Benedict**
> **Deputy Executive Director for Investments, Colorado Public Employees Retirement Association**
> **Hearing, October 30, 1992**
>
> "The pension fund got itself rated by Standard & Poor's. Our AA rating insured the taxable bond issued by the Port for a fee. We get a percentage of the lease payments paid by the aircraft maintenance company that is leasing the facilities from the Port and some equity in the company. So we tied the whole circle together to get the project funded. We used a taxable bond in this case for more flexibility if we ever get the facility after the 30-year lease."
>
> **Stephen S. Smith**
> **Deputy State Treasurer, Oregon**
> **Hearing, October 30, 1992**
>
> "The MCG survey of mortgage real estate funds showed that five ETIs — Prudential Union Mortgage Account, AFL-CIO Housing Investment Trust, ULLICO 'J for Jobs,' AFL-CIO Building Investment Trust and AETNA Union Separate Account — significantly outperformed the non-targeted AETNA PMSA in 1991, as well as over the past 10 years."
>
> **Marco Consulting Group**
> **Media Release**
> **April 15, 1992**

The debate on the wisdom and the criteria for economically-targeted investment by pension funds continues vigorously. But Thomas R. Donahue, Secretary-Treasurer of the AFL-CIO drew a positive conclusion before the Commission on November 19, 1992 by suggesting that econ-omically targeted investing could be done prudently, profitably and in a way that accrues to the benefit of both plan participants and the larger economy.

A review by the U.S. Department of Labor's Advisory Council on Pension Welfare and Benefit Plans ("Economically Targeted Investments: An ERISA Policy Review, Report of the Work Group on Pension Investments") came to a similar conclusion in November 1992, concurrently with the Commission's own review of this area. "There is evidence," the report concluded, "that carefully-selected, skillfully-structured investment portfolios can be created which meet both the targeting objectives which may be important to a plan's beneficiaries or its sponsor and the plan's fundamental need for a competitive return on investment."

Speaking on behalf of the Committee on Investment of Employee Benefit Assets of the Financial Executives Institute on October 8, 1992, Joseph Pellegrino noted agreement with the following policies adopted by a task force created by New York Governor Mario Cuomo to study the feasibility of economically targeted investments. "First, the two legal precepts of pension fund investing — the duty of prudence and the exclusive benefit rule — should not be subordinated to any other criteria," said Mr. Pellegrino. "Second, pension funds should not undertake investments which produce conces-sionary rates of return for the funds in order to promote social goals or achieve economic development goals. Third, the participation of pension funds in target investment programs, including those which may be developed, should be voluntary and not mandatory."

The Commission concluded that pension funds will have opportunities to invest at taxable rates in infrastructure, provided the appropriate mechanisms put in place to facilitate those investments are totally voluntary and fully consistent with the applicable fiduciary duties of pension fund managers and trustees set forth in the federal ERISA statute for private plans and the comparable state and local law for state and government plans. Pension fund fiduciaries, both trustees and their actual investment managers, would follow the same procedures and would apply the same investment criteria to infrastructure as they would for any investment opportunity.

Pension fund trustees, fiduciaries and managers are looking for new investment opportunities. But questions remain about the class and structure of assets infrastructure finance could most likely attract from pension funds.

The Commission asked University of Notre Dame Economics Professor Teresa Ghilarducci to research the question of which portions of pension fund portfolios might be appropriate for infrastructure finance. Dr. Ghilarducci concluded that a taxable-rate, fixed-income infrastructure security could best compete for some of the more than one trillion dollars in taxable-rate, fixed-income investments, primarily bonds, held by pension funds. Attracting even one percent of those pension fund monies to infrastructure securities could bring $10 billion new dollars into infrastructure finance. Five percent would bring $50 billion.

The Commission concluded that even this impressive level of potential new infrastructure investment may understate the true potential, since new investment vehicles attractive to pension funds are likely to be attractive to all institutional investors.

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VOICES BEFORE THE COMMISSION

DISCOVERING NEW STRUCTURES

"State and local governments today face a number of challenges that may constrain their ability to issue local debt secured by traditional revenues: the continuing shift of spending responsibilities from Washington to states and localities; a sharp slowdown in growth; increasing public investment needs; and widespread voter resistance to tax increases. These trends have conspired to accelerate a shift away from property taxes and towards user-based revenues as the predominant source of debt repayment."

ANN C. STERN
PRESIDENT AND CHIEF EXECUTIVE OFFICER
FINANCIAL GUARANTY INSURANCE COMPANY
HEARING, SEPTEMBER 24, 1992

"The ability of many states and localities to raise funds through fee-based programs in the future may be limited by many of the same factors which have impaired tax-backed borrowing, specifically voter and user resistance and, ultimately, the limits of household budgets."

WILLIAM CHEW
MANAGING DIRECTOR, MUNICIPAL FINANCE, STANDARD AND POOR'S CORPORATION
HEARING, SEPTEMBER 25, 1992

"We now have water and sewer rates that average $535 per family, the highest rate on average in the country. We anticipate that should we follow through, and the federal court will in all likelihood insist we follow through on the bulk of this program, our rates will go to approximately $1,300 per family."

PHILIP SHAPIRO
CHIEF FINANCIAL OFFICER, MASSACHUSETTS WATER RESOURCES AUTHORITY
HEARING, OCTOBER 29, 1992

"The Rebuild America Coalition believes the capitalization grants for the state revolving loan funds for wastewater treatment should be reauthorized and expanded to permit financing of a broad array of infrastructure rehabilitation and development needs. This approach stretches federal dollars by encouraging leveraging by state and local governments and provides for the recycling of federal dollars."

JOHN HORSLEY
COMMISSIONER, KITSAP COUNTY, WASHINGTON
HEARING, NOVEMBER 19, 1992

"A search for capital pools that may be borrowed and innovative financing vehicles that can reduce debt service costs is important, but it ought not to obscure our central challenge in infrastructure finance — finding secure, predictable revenue sources to supplement public resources and, certainly, to repay the invested debt."

PETER TUFO
CHAIRMAN AND CHIEF EXECUTIVE OFFICER
NEW YORK STATE THRUWAY AUTHORITY
HEARING, NOVEMBER 19, 1992

CONCLUSION 4.

New financial structures and federal leadership will be vital in any new, sustainable effort to fund the nation's infrastructure needs.

Federal dollars increasingly will be used to leverage other funds for one simple reason — absolute demand will outstrip federal funding available for direct grant programs. Congress and policymakers have already recognized this in many ways and have begun making adjustments.

The U.S. Environmental Protection Agency, for example, allows states the flexibility to use grants to capitalize state revolving funds for environmental projects. These state revolving funds can award loans and other forms of financial assistance to local governments for water pollution control facilities and programs. They have become self-renewing sources of finance in 44 states for waste-water projects. EPA's Environmental Financial Advisory Board has issued a stream of studies on alternate financing mechanisms in response to the growing needs ahead.

Carl Williams, Deputy Director of the California Department of Transportation, shared his ideas for a state transportation revolving fund with the Commission. Among the services proposed are assistance in the project development stage and credit enhancement for projects financed largely in the private sector. The Governor's Growth Management Council in California also has recommended a state infrastructure financing agency to support local infrastructure projects.

Numerous states already have set up bond banks, development banks or other facilities to pool resources, streamline administrative procedures

LEVERAGING AND REVOLVING FUNDS

Among many other provisions, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) allows states to begin using federal funds to finance state revolving funds. Under Section 1012, a state will be permitted to loan the federal funds it receives to a public or private entity undertaking the project, rather than transferring the federal grant directly to that entity. Principal and interest amounts repaid from such loans may be retained by the states and obligated for other transportation projects.

These new provisions recognize the likelihood of diminishing federal transportation funds in the future and the importance of setting up self-renewing sources of finance to leverage other dollars. Leveraging simply means the combining of various sources of finance to increase the total amount available for project construction.

The Congress actually began the process in provisions of the Clean Water Act of 1987 by requiring the phase-out of the U.S. Environmental Protection Agency's construction grant programs (EPA Title II) in favor of a revolving loans program (EPA Title VI). Federal funding for these revolving loan programs will be complete at the end of FY1994, at which time states will be largely on their own to finance wastewater treatment needs. Fortunately, there are four basic leveraging structures that have grown at the state level to meet the changes required by EPA.

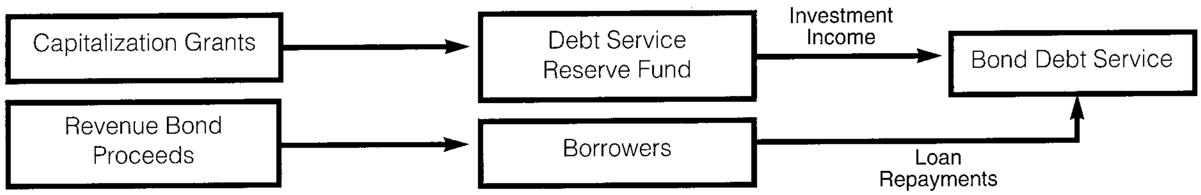
"The Pennsylvania Infrastructure Investment Authority, PENNVEST, was created as an independent agency of the Commonwealth to finance the repair and expansion of sewer and water supply systems and facilities through low interest loans and grants. Funds are provided by general obligation bonds of the Commonwealth and PENNVEST's own revenue bonds secured by loan repayments and interest on loans retained as capital. Since 1988 one billion dollars in project funding for 614 projects have benefited six million people and created 41,000 construction jobs."

ARTHUR D. HEILMAN
BUREAU OF REVENUE, CASH FLOW AND DEBT, COMMONWEALTH OF PENNSYLVANIA
HEARING, OCTOBER 29, 1992

"Bringing in private capital markets to leverage public financial resources can offer, in many cases, a cost-effective means of developing infrastructure. In order to offer both financial returns to private investors and achieve social benefits the public desires, there must be a good working understanding of privately-financed infrastructure between the pubic and private sectors and, where appropriate, a sharing of project risks between them."

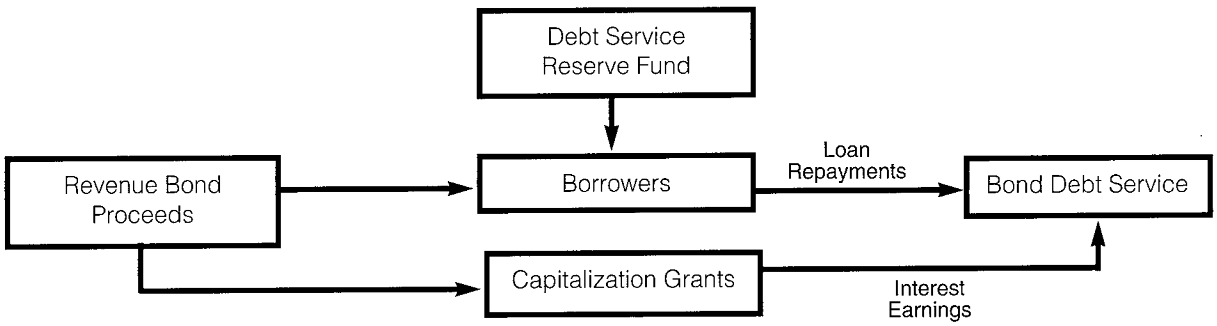
MARK W. THOMPSON
MANAGER, PROJECT DEVELOPMENT
MORRISON KNUDSEN CORPORATION
HEARING, OCTOBER 9, 1992

Reserve Fund Model (Minnesota, New York, Colorado, Arizona)



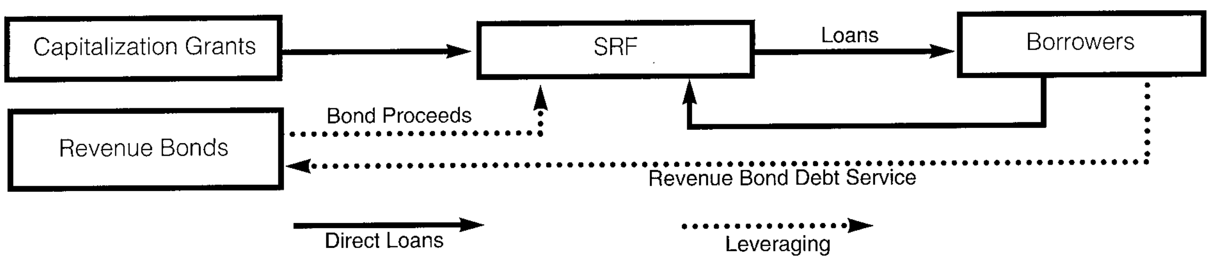
Federal and state grant monies are deposited into a debt service reserve fund and used to secure bonds issued to fund project costs. As a source of bondholder security, a reserve fund helps increase the ratings on the debt. As a source of interest rate subsidy, the earnings on a reserve fund helps lower the cost of financing.

Cashflow Model (Maryland, Maine, Texas)



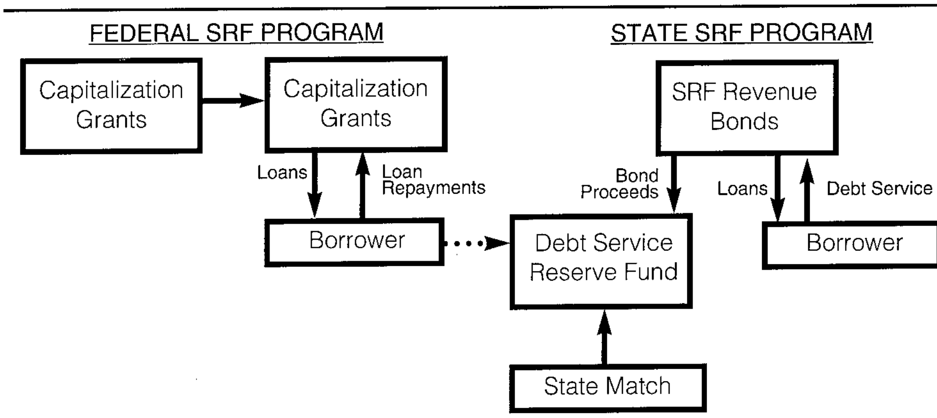
Federal and state grants are combined with bond proceeds and loaned out. The loan to the borrower is both equity funded (grant monies) and debt funded (bond proceeds) so that the "blended" interest rate is below the market rate.

Ohio Model



The state revolving fund loans out all federal and state monies and issues bonds secured by the loan repayments. Securitizing the stream of repayments achieves leverage.

Wisconsin Model - Flow of Funds



All capitalization grants and bond proceeds are loaned at approximately the same time, but capitalization grant monies are kept separate from bond proceeds and are not pledged to bondholders.

Charts: Kidder, Peabody & Co.

and share credit evaluations and ratings. There are several notable regional public-private efforts to create more leveraging options, such as The Northeast Corridor Initiative, Inc., which promotes improved ground transportation and high-speed rail in the New York-Boston corridor.

The 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) authorized greater flexibility at the state level in using federal funds for highway and transit projects by permitting the imposition of user fees on federally-aided projects and permitting states to make subordinated loans to projects, including those which are privately owned. Joseph M. Giglio, Jr., former Chairman of the National Council on Public Works called the act "a dramatic shift in federal transportation policy."

In his letter of October 12, 1992 to the Commission, Mr. Giglio noted, "It opens the door to a number of new ways of financing transportation needs — advance construction financing, waiver of state match, federal funds for toll facilities, seed capital for state transportation banks and toll revenue 'soft' match programs."

A more measured assessment came from Robert Band, Vice President for Project Development at Perini Corporation in the Commission's hearing on October 9, 1992 when he suggested that "much publicized funding shortfalls at all levels of government have and will continue to present a road block. We simply can't raise all the funds today through taxes to build infrastructure that will provide benefits for 50 years and beyond." Indeed, states have yet to take advantage of the ISTEA innovations.

Among the reasons given the Commission for state adoption of these alternative financing mechanisms are constitutional limitations in many states against use of public funds for private purposes, the limited technical financial expertise available to state officials and the delays inherent in moving on a state by state basis.

The Commission did identify several successful existing federal programs which can serve as structural models for leveraging funds and assisting in new investment. Chief among them is the self-sustaining College Construction Loan Insurance Association (Connie Lee).

Authorized by Congress to insure and reinsure college building bonds up to Triple-A rating, Connie Lee is a private corporation which works closely with its constituents to structure financial packages and overcome obstacles to needed campus improvements. Its market-disciplined operations have made it the only government-sponsored enterprise to earn a Triple-A rating exclusive of government support. Connie Lee's credit evaluation and enhancement programs work efficiently at a 50:1 ratio, enabling it to leverage each $100 million in capital into credit enhancement on billions of dollars in project activities. Connie Lee, moreover, has only 50 employees.

Oliver R. Sockwell, President and Chief Executive Officer of Connie Lee, explained to the Commission on October 29, 1992 that Connie Lee was formed as the solution which entailed the least liability for the federal government and the greatest potential to leverage private capital. "The best alternative was a specialized credit enhancement company dealing primarily in bonds of lower investment grade issuers," Mr. Sockwell offered. "Private investors would make an investment they would otherwise decline and lower interest costs would make more projects creditworthy and, thereby, feasible."

Ann C. Stern, President and Chief Executive Officer of the Financial Guaranty Insurance Company, a private bond insurer, agreed before the Commission on September 24, 1992 that government-sponsored enterprises (GSEs) could be a potent tool for assisting state and local governments in infrastructure financing, but she suggested, "GSEs must be used only to supplement and not replace private capital market mechanisms, however."

Another federal body that is a model for investment assistance is the Overseas Private Investment Corporation (OPIC) provides investment finance (direct loans and loan guarantees) and insures American private investors against political and other risks in more than 120 foreign countries. Equally as important in the Commission's view is the OPIC function that provides technical advice and investor services for American companies investing abroad. OPIC places the federal government directly on the side of American business in eliminating unnecessary constraints or barriers to new investment, yet, the Commission found no domestic counterpart for investment in America's infrastructure.

Because of their start-up nature and capacity constraints with private credit enhancers, many new infrastructure projects currently lack credit enhancement opportunities, such as those offered by Connie Lee, or the organized assistance from the public sector enjoyed by private corporations that are OPIC beneficiaries.

The Commission did identify a number of other federal programs that combine technical help with flexible financial assistance for various sectors of the economy, such as small, low-income and rural communities, which normally do not have easy access to private capital markets. The Farmers Home Administration (FmHA), for example, can provide market-rate loans, intermediate-rate loans and five percent loans. Grants are made only when

Lifting Projects to Market: Connie Lee

Connie Lee is a specialized credit enhancement company which guarantees bonds issued by colleges, universities and teaching hospitals for facilities and infrastructure. The company provides bond investors with an unconditional and irrevocable guarantee that principal and interest will be paid when due. As a prerequisite to its Triple-A rating, Standard and Poor's affirms that Connie Lee's underlying credit criteria, management expertise, financial performance and reserves meet the agency's very highest standards.

Unlike a federal agency, Connie Lee acts as a catalyst for the creativity of hundreds of individual issuers, state authorities, bankers and financial advisors. This eliminates the need for a large federal bureaucracy and assures that financial solutions are tailored to the local situation. As a result, private capital flows to facilities investments which would otherwise go unfunded and lower interest costs and extended repayment periods make more projects economically feasible.

Connie Lee was authorized by Congress under Title VII of the Higher Education Act in 1986 to help address what experts determined was a $100 billion deficit in new and renovated higher education facilities — buildings, laboratories, roads, parking facilities, heating and cooling systems and communications equipment. Because only about one in ten academic institutions had stand-alone access to low-cost capital through the public debt markets, policymakers concluded that lower investment grade issuers needed credit enhancement to help long-term, low-cost municipal bonds address these challenges.

Connie Lee works closely with potential issuers from the early stages of the financing process, providing in-depth credit analyses, helping structure cash flows and negotiating terms and covenants. It is selective in the issues that it ultimately insures to maintain the investment grade quality of its guaranteed transactions.

Although classified as a government-sponsored enterprise (GSE), Connie Lee is managed within customary rating agency and state regulatory requirements for credit risk, solvency, capital and reserves. It is the first and only GSE to receive a Triple-A rating exclusive of government support. The direct federal financial contribution is limited to seed capital, a modest 15 percent of total equity investment. Connie Lee guarantees do not rely on the full faith and credit of the federal government, rather on its own financial reserves.

Connie Lee's principal investors now include the U.S. Department of Education, Sallie Mae, Pennsylvania Public Schools Employees' Retirement System, Metropolitan Life Insurance Company, Rockefeller & Co. administered trusts, The Common Fund and Stanford University.

"It was reassuring to legislators and the administration that Connie Lee is subject to continuing and effective oversight by major rating agencies and state insurance regulators. Connie Lee is required to be operated as prudently as any private bond insurance company, with valid credit assessments and risk-adjusted premium levels."

"We get involved with issuers very early in the process. We do in-depth credit analysis, generally go on site to review the proposed project and to meet with the issuers, the management, the board and we're involved in negotiating terms and covenants. Connie Lee is very selective in the transactions it accepts for insurance and a significant percentage of potential transactions are declined."

"The default rate in the entire insured municipal bond industry over 20 years is about two one-hundredths of one percent. Our company hasn't realized any defaults whatsoever."

Oliver R. Sockwell
President and Chief Executive Officer
College Construction Loan Insurance Association
Hearing, October 29, 1992

necessary to reduce user charges to a reasonable level. Since 1990, FmHA can provide loan guarantees for third-party loans for between 80 and 90 percent of project costs. The program is administered through an extensive network of state and district offices.

The Economic Development Administration's Public Works and Development Facilities Grant Program focuses on facilities that promote long-term economic development and contribute to private-sector job creation and retention.

The Community Development Block Grant/Small Cities Program of the U.S. Department of Housing and Urban Development provide grants that improve living conditions and economic opportunities, including public facility construction, in urban communities. States administer their own programs (except in New York and Hawaii) according to their own procedures, priorities and selection criteria.

The U.S. Army Corps of Engineers has an FY1991 appropriation to help smaller communities or those without significant resources better estimate revenues and costs of environmental projects.

The Appalachian Regional Commission supplemental grants program assists in creating jobs and in boosting private investment in development facilities.

CoBank, the National Bank for Cooperatives, is a part of the Farm Credit System, a government-sponsored enterprise that sells securities to investors. CoBank offers a variety of loan programs and financial services tailored to agricultural cooperatives and rural utility systems and, since 1990, communities under 20,000 in need of water and wastewater system finance.

There are many other examples where special, targeted government programs attempt to overcome the barriers blocking greater investment in infrastructure. Regrettably, the Commission found no comprehensive federal policy or program to coordinate or to extend credit enhancement or technical assistance benefits for infrastructure project finance.

The Commission concluded that an effort at the federal level is needed to act both as a catalyst and as an example of the efficiency and effectiveness of new, innovative alternative financing mechanisms.

FULLER PUBLIC-PRIVATE PARTNERSHIPS: THE OVERSEAS PRIVATE INVESTMENT CORPORATION

The Overseas Private Investment Corporation (OPIC) is a federal agency that provides project finance, investment insurance and a variety of investor services to American businesses that invest abroad. Since beginning operations in 1971, OPIC's mission has been to encourage American private investment abroad to improve U.S. competitiveness, create American jobs and increase U.S. exports.

OPIC offers one model of how a fuller public-private partnership might work to boost investment in state and local infrastructure projects and create jobs.

OPIC assists American investors in three distinct ways. OPIC can help finance investments through direct loans and loan guarantees. Direct loans range up to six million dollars and loan guarantees up to $50 million. It can insure investment projects against a broad range of political risks. And it can provide pre-investment assistance, including investor advisory services, country and regional information, computer project/investor matching and investment missions and outreach programs.

All of OPIC's guaranty and insurance obligations are backed by the full faith and credit of the federal government and by OPIC's reserves, which stood at $1.8 billion in fiscal year 1992. As a self-sustaining agency, OPIC has received no public funds beyond its original start-up appropriations, which have been returned to the U.S. Treasury. It has loaned over $1.5 billion to U.S. companies, sold them $35 billion worth of investment insurance and introduced them to thousands of business partners in more than 120 countries worldwide.

OPIC initially reviews a copy of the business plan for the proposed investment project, including ownership, management, supply, outputs, market, competition, costs, sources, proposed financing and expected contribution to the local economy. Sponsors may be asked to include additional economic, financial and technical information in its formal application for financing. To commit and close a loan, loan guarantee or equity investment, OPIC may take from one month to six months or more. OPIC's staff works with investors, lenders and host country officials to structure financing that satisfies the diverse requirements and goals of all parties.

"Even when state and local governments, whether by necessity or choice, were prepared to move ahead without direct support from Washington, they often faced federal policies — limits on tax-exempt financing, preemption of certain revenue sources, rules governing privatization — that seemed designed more to discourage than to stimulate investments in infrastructure."
"What [the role] does require is that the federal government use its authority to structure a truly national system of infrastructure financing."

STEPHEN BERGER
EXECUTIVE VICE PRESIDENT
GE CAPITAL
LETTER, SEPTEMBER 23, 1992

"The lead state agencies that interact with developers and make the decisions to implement these projects, and the developers themselves, must create the appropriate regulatory, environmental, political and financial climate to attract private financing."

MICHAEL J. WYNNE
ASSOCIATE DIRECTOR, PROJECT FINANCE
BARCLAYS BANK PLC
HEARING, SEPTEMBER 25, 1992

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Voices Before the Commission

Measuring Barriers to Private Capital

"The concept of revenue adequacy — whether revenues cover costs — is important to the cash-strapped federal government, but it also has implications for the efficient allocation of resources in the long run. If the costs of an investment project cannot be recovered from those who use it, the project's feasibility comes into question. But an investment that benefits society is worth making, even though it may not be possible to charge users for it. This often characterizes goods and services provided by the federal government, and it underlies the rationale for government rather than private activity in certain sectors."

Paying for Highways, Airways, and Waterways: How Can Users Be Charged?
Congressional Budget Office
May 1992

"OTA concludes that federal investment in selected segments of public works must be increased to leverage state and local investment in growth areas and supplement resources in economically weak areas. Otherwise, the gap between local jurisdictions' ability to provide essential public services and the need for the services will continue to grow, with potentially serious consequences for the national, state and local economies."

Delivering the Goods: Public Works Technologies, Management, and Financing
Office of Technology Assessment
April 1991

"Public works services should be priced so that direct users, indirect beneficiaries, and producers of waste pay the costs of services. If price reflects costs, the public's use of a facility and its willingness to pay for services will indicate the appropriate scale and distribution of public works."

Fragile Foundations: A Report on America's Public Works
Final Report to the President and the Congress
National Council on Public Works Improvement
February 1988

"For the most part, people will accept the fairness of the financing method in which they perceive a direct benefit for their expenditure."

Peter Tufo
Chairman and Chief Executive Officer, New York State Thruway Authority
Hearing, November 19, 1992

"We are acutely aware of the key impediment to infrastructure financing — namely the speculative credit quality of the issues of many proposed infrastructure projects. Are investors interested in purchasing bonds of speculative credit quality, i.e., with an unproven ability to repay the debt? In general, the answer is no, whether the investors are tax-exempt municipal bond investors or the pension funds. If the credit quality of the bonds is enhanced, both groups of investors will be interested in investing."

Ann C. Stern
President and Chief Executive Officer, Financial Guaranty Insurance Company
Letter, November 17, 1992

CONCLUSION 5.

New communities of interest among various levels of government and the private sector are necessary to raise the priority of meeting the infrastructure challenge and to facilitate the flow of new sources of capital into infrastructure development.

The Commission reviewed the report of the Anthony Commission on Public Finance to gain a fuller appreciation of the barriers to wider use of municipal bonds to finance infrastructure projects. The Anthony Commission's explanation of the legislative and judicial history of restrictions on uses for bonds exempt from federal taxes was highly instructive.

Federal tax provisions in 1968 eliminated the tax-exemption for bonds that primarily benefited private persons, but it exempted certain facilities and small issuers from the retrictions. In 1969 new restrictions were placed on the investment of the proceeds of tax-exempt debt in taxable securities to yield a profit. By 1986 new restrictions constrained the use of tax-exempt debt where there was significant private participation in ownership or operations.

Certain privately-owned facilities, such as mass commuting vehicles, were made ineligible for tax-exempt financing by the 1986 Tax Reform Act. The act also imposed state volume cap limits of $50 per capita or $150 million per year for issuance of private activity "exempt facility" bonds plus mortgage revenue, student loan and certain other bonds. A prohibition in the act against long-term management contracts restricts concession-type privatization of tax-exempt financed public facilities and restrictions against financing used property with tax-exempt debt make sale-leasebacks of existing facilities less cost-effective. And the 1986 act also made 50 percent of the interest on tax-exempt municipal bonds part of the calculation for alternate minimum tax requirements.

There are other tax-related factors that restrict private capital flows into infrastructure, including extended depreciation periods for property financed with tax-exempt debt or leased to non-taxpaying entities, such as governmental units.

An increasing proportion of infrastructure projects are being financed with user fees or other revenue stream attached, such as tolls collected on a bridge, tippingfees at a landfill, water and sewer charges or revenue from gate leases at an airport. Two out of every three tax-exempt bond issues are now revenue bonds backed almost exclusively by a user fee or dedicated revenue source.

But user fee-based projects, particularly new facilities, can be financially complex and often are not readily accepted by the capial markets. Further, there may be some limits on the number and magnitude of user fees that citizens/con-sumers/ taxpayers are willing to accept.

More revenue-based financing, Commission witnesses indicated, does open up the potential for institutional investment. Institutional investors, however, said they relied on evaluations of project revenue potential and credit ratings to weigh risks and rewards. Various participants in the financial markets noted the need to improve their abilities to rate the credit-worthiness of infrastructure projects that have a revenue stream, particularly in the case of new facilities.

Federal leadership can assist in this process. By enacting the Public Utilities Regulatory Policies Act (PURPA) of 1978, for example, the federal government fostered the emergence of a new, innovative independent power production industry. The success of policy pushing innovation in that case is clear. Half of all power production that came into commercial operation in 1990 came from projects developed and financed under PURPA regulations.

Private investment in infrastructure, including investment in telecommunications and utilities,sectors with proven pricing and profit potential, continues to face a bewildering thicket of federal, state and local taxes and regulations that can discourage new investment, innovation and new technologies.

One of the barriers to private capital investment in infrastructure development is pre-construction development risk, including an extended and often unending environmental permitting process and difficulties in getting ratings on start-ups. Mark W. Thompson, Manager of Project Development for Morrison Knudsen Corporation, noted on October 9, 1992, "An environmental impact statement that often takes years and millions of dollars is just one of the tasks a developer must complete. Add to this the need to determine the project's economics, build a financial plan, conduct traffic and ridership studies, negotiate tax and legal agreements, complete preliminary engineering and satisfy state and local political authorities. All of these due diligence activities carry a certain level of risk, cost real money and must be completed before the project can be financed and constructed."

Private capital has the potential to help prompt innovation and spawn new technologies in infrastructure, as it has in technologies, management and operations in other sectors of the American economy. But both investors and users can adopt careful wait-and-see attitudes before embracing innovations and adopting new financing mechanisms. Returns are always weighed against these kind of unknown potential risks.

There is also a problem, the Commission learned, for lower-rated user fee-based projects that fall into that segment project finance market usually filled by banks. Bankers appearing before the Commission on September 25, 1992 argued that without federal government leadership in reducing the risks that can act as impediments, there will not be more vigorous private capital investment in infrastructure.

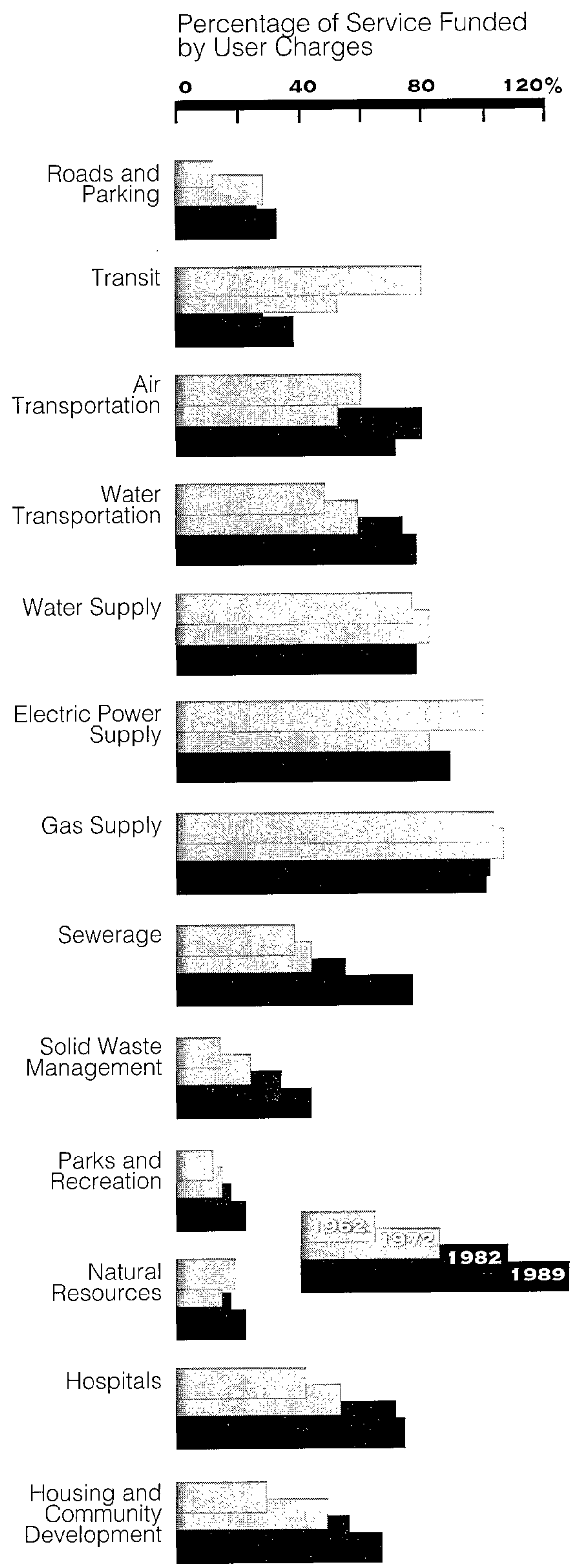
"A commercial bank's biggest concerns are whether a project will go ahead, whether new non-construction risks will develop, whether certainties in cash flow and payback are possible and whether the terms of financing are appropriate," concluded Markus K. Christen, Head of Global Project Finance for Credit Suisse.

Banks, particularly international banks, are traditional lenders for infrastructure finance and represent an important pool of capital. But there are obstacles to a greater amount of bank participation. Banks prefer 10-year project loan periods, much shorter than the typical 30-year term sought for infrastructure projects. Because of their liability structure, banks prefer to lend at variable rates of interest, while borrowers prefer fixed rates. An additional concern placed before the Commission questioned the wisdom of having bank financing decisions about American infrastructure priorities increasingly made in bank boardrooms outside the United States.

Private investors look to states and localities for new flexibility in evaluating projects, making priority decisions and assisting in the permitting process. "The private market usually can set efficient rates, provide capital and manage bond offerings, but not entirely alone," offered Barry P. Gold, Vice President of Public Finance at Citibank. "The more speculative the cash flow, the more subordinated capital is needed. So the public sector, the major beneficiary of infrastructure projects, should be involved at that stage."

Infrastructure projects tend to be both large and complex, bringing together a wide range of funding sources and decision-making bodies in both the

WHAT USER FEES SUPPORT



SOURCE: U.S. Census Bureau Data compiled for Lincoln Institute of Land Policy. Chart adapted from *Public Finance Quarterly* and *Governing* magazine.

public and private sectors. The initiative and resources of the private sector will be an important component of any program which seeks to meet the nation's infrastructure challenge in a timely fashion.

The Commission concluded that there is a need for various levels of government and the private sector to form new communities of interest to share the development, construction and operational risks inherent in infrastructure projects. There is a specific need to encourage states to undertake certain development risks on behalf of user fee-based projects, whose benefits accrue to the public, but which otherwise would have to wait years, even decades for traditional state funding.

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POLICY PUSHING INNOVATION: THE PUBLIC UTILITIES REGULATORY POLICIES ACT OF 1978

The growth of the independent power industry under provisions of the Public Utilities Regulatory Policies Act (PURPA) of 1978 provides an important illustration of how the development of new projects can be facilitated through the utilization of alternative financing mechanisms.

Throughout the 1960s and 1970s, developers of new electric power projects utilizing alternate technologies such as solar, wind, geothermal, waste-to-energy and cogeneration encountered difficulties in obtaining financing necessary to build and operate their facilities.

In response to these and other concerns about how to encourage broader competition and technological innovation in the electric power industry, Congress enacted PURPA. One of PURPA's provisions created a framework that led to a clearly defined power sales contracting process between existing utilities and new power producers. That contracting process assured volume offtake and defined the formula for calculating the price of power.

The intent of the new law was to provide developers, lenders and equity investors with assurance that project decisions could be made against firm revenue projections. At first, following enactment of PURPA, projects were generally in the $50 million to $250 million range. Financing was manageable with funds from one or more commercial banks.

Although early projects encountered developmental obstacles, particularly in permitting and contract negotiations, the development process became more manageable and predictable over time, achieving a reasonable balance between development risks and rewards for the developer.

The experience of project development under PURPA was such that, within the past two years, Congress has enacted two separate laws to build upon the PURPA success. In 1990, Congress lifted the statutory ceilings that limited the size of projects eligible for the expedited financing procedures set forth in PURPA. However, certain restrictions relating to the ability of project developers to locate their projects in areas where power needs existed remained in force. These restrictions were effectively eliminated in 1992 with Congressional enactment of a new, comprehensive energy bill.

"Sweeping reform and innovation in cogeneration projects and independent power production started first with federal government leadership, then built steadily over time as banks became familiar with the risks and forms of new power generation agreements."

HANS BEEN
VICE PRESIDENT
BECHTEL ENTERPRISES, INC.
HEARING, OCTOBER 9, 1992

"We have seen that some new types of financing for infrastructure purposes, such as limited and non-recourse debt for U.S. independent power projects and limited and full recourse debt for non-U.S. electric, gas and telecommunications utilities, when they are investment grade or near investment grade credits, have been well received by investors."

WILLIAM CHEW
MANAGING DIRECTOR, MUNICIPAL FINANCE
STANDARD AND POOR'S CORPORATION
HEARING, SEPTEMBER 25, 1992

Addressing the Infrastructure Financing Problem

"If we're ever going to really address the monstrous challenge that we have before us, whoever is the next president, whoever are the governors of our states, are going to have to take a far more active role in bringing this nation to a public judgment on infrastructure."

Robert L. Mitchell
Former Chairman, Michigan Task Force on Public Investment
Hearing, October 29, 1992

"The Board recognizes that, just as the environmental protection paradigm is shifting from controlling discharges to reducing the generation of pollutants, the financing paradigm must evolve from the concept of spending to one of investment."

Narrowing the Gap: Environmental Finance for the 1990s
Environmental Financial Advisory Board,
U.S. Environmental Protection Agency
May 1992

"There has to be stability and dependability in financing ... to get projects done quicker and leverage other funds. I think ultimately the answer to that question is whether you think the investment will happen if you don't have something like this."

Carol O'Cleireacain
Commissioner of Finance, City of New York
Hearing, October 29, 1992

"The Commission recommends, therefore, that the nation's state and local governments, and the several federal infrastructure agencies, work more closely together, and in cooperation with the private sector, to take advantage of opportunities to make the nation's infrastructure more efficient, better coordinated, and more highly productive."

Toward a Federal Infrastructure Strategy: Issues and Options
Advisory Commission on Intergovernmental Relations
August 1992

"From a federal deficit perspective, none of these proposals to encourage infrastructure investment is costless, but the real question is, can we as a nation afford to do nothing?"

R. Fenn Putnam
Managing Director, Lehman Brothers
Hearing, September 24, 1992

Addressing the Infrastructure Financing Problem

Voices Before the Commission
Structure New Financing Options

"Closing the gap between funding needs and revenue sources for environmental programs requires actions by all levels of government. State and local governments should examine their funding needs and determine whether existing revenue sources are adequate to meet these needs. If current resources are found to be insufficient, they should take steps to analyze and characterize the shortfall and then evaluate and implement alternative financing mechanisms."

Alternative Financing Mechanisms for Environmental Programs
State Capacity Task Force, U. S. Environmental Protection Agency
August 7, 1992

"Infrastructure banks, revolving loan funds, and other innovative funding systems are being used effectively in a number of states. They offer the potential to become a major sustaining source of financial assistance for local infrastructure investments, when sufficiently capitalized. Recommendation One: Congress should create an Infrastructure Trust Fund to capitalize infrastructure state banks and revolving loan funds."

Report of the Private Sector Advisory Panel on Infrastructure Financing
Committee on the Budget, United States Senate
August 1987

"We believe there should be a federal focal point for setting priorities, financing, coordinating, guaranteeing and implementing the new national infrastructure investment program. We think it is essential that such an entity be subject to public oversight and control in order to be consistent with the nature of infrastructure as a public good."

Thomas R. Donahue
Secretary-Treasurer, AFL-CIO
Hearing, November 19, 1992

"I believe the consensus, with which I agree, was that a guarantee, collateral, insurance, etc. would be very helpful in dealing with the development period [of a project]. This is the risky part. Once the project was up and running, assuming somewhat stable revenues, the balance would be financed by issuing public debt if the individual project was large enough to warrant that."

Daniel J. Fuss
Executive Vice President, Loomis, Sayles & Company
Letter, October 16, 1992

"Government can assist up front by helping establish the credit-worthiness of infrastructure projects for smaller pension funds that cannot afford such due diligence work on their own."

Roy W. Dickinson
Executive Assistant to the International Secretary,
International Brotherhood of Electrical Workers
Hearing, October 8, 1992

Recommendation 1.

1.1

A national infrastructure corporation, in partnership with state infrastructure revolving funds and other local and private sources of capital, would be able to implement national infrastructure priorities, leverage more dollars with federal funds and employ innovative financing techniques to get priority projects underway.

A **national infrastructure corporation** will provide new leadership and supplementary approaches for the multiple departments, agencies and authorities involved in infrastructure finance. This federal government focal point for infrastructure is essential to a timely, effective national policy response to the infrastructure financing challenge.

The corporation would be authorized to promote infrastructure investment by evaluating and offering several forms of financial assistance and technical advice to infrastructure projects with self-supporting revenue potential. It would seek to enhance the credit of priority infrastructure projects, first, and then through securitization of project loans, to offer additional liquidity to project lenders. It would work to provide services to public and private project sponsors as a domestic version of the Overseas Private Investment Corporation (OPIC). The corporation's funding activities could be leveraged further if it were to issue its own debt obligations to investors. This program would benefit from a limited line of credit to the U.S. Treasury, similar to other federally-chartered enterprises.

The corporation could be capitalized initially in a variety of ways — through investments from existing government entities (for example, the Department of Transportation and EPA as shareholders), as was done so successfully with Connie Lee, by an increment of the gasoline tax or by direct appropriation.

The range of alternate financing mechanisms, from enhancing credit and insuring development costs to taking subordinated debt positions, all leverage a significant amount of other resources, far outperforming traditional federal grant programs in sparking desparately needed new project activity.

In the first phase of this new structure, the Commission estimates that each one billion dollars of federal money has the potential to prompt $10 billion in new infrastructure project finance. In the second phase, when the corporation begins issuing special infrastructure securities to pension fund and other institutional investors, each one billion dollars of federal money has the potential to leverage $18 billion or more in new infrastructure project activity.

For one billion dollars annually devoted to this vehicle for five years, the federal government would build a self-renewing source of finance with the potential to leverage up to $100 billion of infrastructure projects.

An **infrastructure insurance company**, established initially as a subsidiary of the corporation, would provide a mix of direct insurance and reinsurance to issuers of senior debt in infrastructure projects that existing bond insurers and other credit enhancers cannot or will not insure. Reinsurance would expand the capacity of existing private firms to cover other infrastructure projects. Projects would be reviewed and evaluated first to assure they meet the minimal investment grade standard of private rating agencies, then taken up by the insurance company.

The bond issuer would purchase the company's insurance for a fee to get the highest credit rating (Triple-A) and funding through the taxable or tax-exempt bond market. Insured debt of projects eligible for tax-exempt financing would become more attractive to the municipal market. Insured debt of taxable-rate projects would become more attractive to other private investors. The company would operate on a self-supporting basis, similar to the successful Connie Lee.

An **infrastructure finance division** of the corporation would use funds borrowed by or appropriated to lend directly to priority projects that have credit-worthy revenue projections, but lack historical operating results or to those that may not be able to demonstrate sufficient credit strength immediately. Such financial assistance would be available on a basis subordinated to other project lenders in a manner similar to that authorized by Congress in the Intermodal Surface Transportation

Potential Infrastructure Development Per $1 Billion of Federal Capital

	Financial Assistance Program	Allocation of $1 Billion of NIC Funding	Percent of Project Costs Assisted	Leverage Ratio (Total Project Costs: NIC Capitalization)	Total Project Activity
1.	Guarantor Senior Debt Credit Enhancement	$250 million	Guarantees 100% of senior debt service	15:1	$3.8 B(1)
2.	Lender Funding of Subordinate Project Loans	$650 million	Loans 25% of Project Costs	9.4:1	$6.1 B(2)
	Subtotal	$900 million		11:1	$9.9 B(3)
3.	Development Risk Insurance	$100 million	Insures up to 70% of Development Costs	1.4:1	$0.14 B(4)
	Total	$1 billion		10:1	$10.04B

(1) The infrastructure insurance company would provide a primary insurance financial guarantee on principal and interest to investment grade credits rated below single-A, similar to operations of Connie Lee. Guarantor would also provide reinsurance to existing bond insurers to free up additional capacity for them. Due to higher risk profile, the Guarantor would probably need to adhere to more strict standards than Connie Lee's 50:1 debt service exposure to capital ratio. The Commission has assumed a 30:1 ratio, which is roughly midway between the leverage ratios use by rating agencies to assess credit enhancer portfolios of commercial real estate mortgages and highly leveraged transactions. The 30:1 debt service-to-capital ratio corresponds to a 15:1 ratio for par amount of bonds insured to capital. The Commission has assumed that half of the debt would be tax-exempt and half would be taxable, resulting in a blended borrowing rate of 7.5 percent for 20 year borrowing.

(2) The national infrastructure corporation would fund $650 million of subordinate debt at an assumed blended taxable and tax-exempt rate of 10 percent with $650 million of allocated appropriations. Subordinated debt may be supplemented by public or private sponsor equity. If subordinated debt represents up to 25 percent of project costs, this $650 million initially would induce nearly $2.6 billion of projects. However, since the corporation itself acts as a revolving fund, there is a multiplier effect of secondary loan activity generated by loan payments. The Commission drew upon rating agency analytic models for credit enhancers to estimate the potential subordinated debt defaults the corporation might experience in a 10-year economic depression scenario. Based on these "stress tests," up to nine percent of the subordinated debt portfolio could be non-performing. The Commission also assumed that there is a two-year construction period before repayments commence. On this basis the corporation would receive $70 million per year from 1995-2000, which in turn, could be relent. These monies would result in over $350 million of second round revolving loans. In addition, the corporation would seek to monetize the remaining balance of its performing loans after five years' seasoning by borrowing against or selling off its portfolio, generating further lendable funds.

(3) Ultimately, when a sufficient track record has been established for project financings, it should be possible for the corporation to attain further leverage by selling its own straight debt or guaranteed pass-through securities, using its contributed capital in essence as a debt service reserve fund. However, due to the heterogenous nature and risk profiles of the projects, this securitization is unlikely to occur in the short-term.

(4) If development phase costs are assumed equal five percent of total project costs, the $100 million in seed capital could ultimately induce $2.8 billion of activity. Projects might still need funding assistance at the construction phase through the Guarantor or Lender, so the induced activity may not be additive to the total. Due to the speculative nature of project development, the Commission has assumed 1:1 reserves against total development risk exposure. The amount of insurance written for any single project would be capped to prevent undue concentration of risk.

Source: Lehman Brothers

Efficiency Act of 1991 (ISTEA), but not yet utilized by the states.

There are, for example, three toll road projects currently seeking project finance in private capital markets totalling approximately $2.3 billion in project activity. Approximately $150 million in subordinated debt could have closed the financial arrangement necessary to move these projects to the construction stage. The finance company would encourage these types of projects with the potential to achieve self-sufficiency. Environmental projects which are smaller in scope and needs would also benefit from this type of subordinated debt program. Subordinated debt would be recycled within a few years as projects are constructed, achieve operating stability and can be refinanced. Loan repayments would allow the corporation to function as a revolving loan fund.

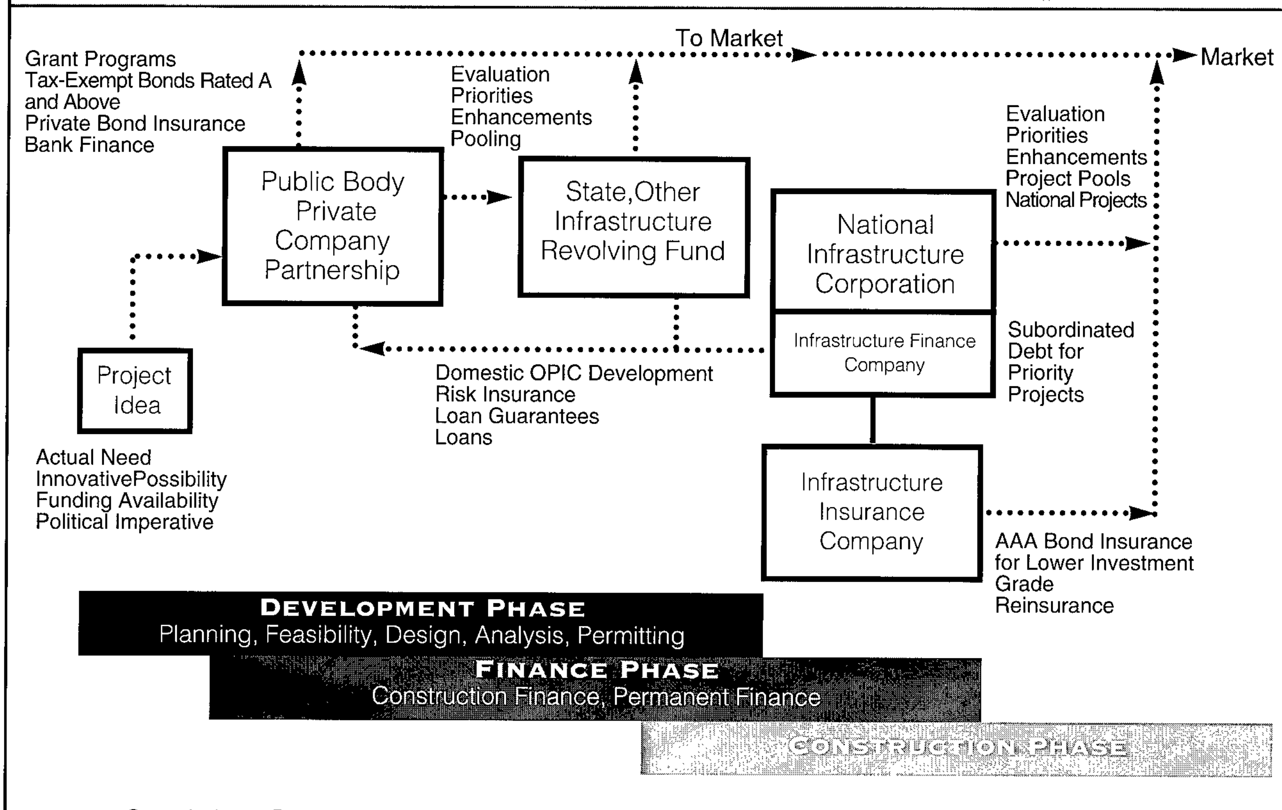
A **development insurance service** would provide insurance, subject to appropriate retention of risk by the project sponsor, to cover the initial development phase of projects, where permitting, financial feasibility and regulatory approvals pose specific risks. Project developers were most confident that new public-private partnerships could boost overall project activity. Pre-development finance, credit enhancements or debt service to make up reserves were specificially recommended to support development phase expenditures (engineering, environmental, legal and preconstruction planning) largely assumed by private project developers.

As states, localities and regional groups agreed, the corporation could facilitate partnerships and help establish **infrastructure revolving funds** (IRFs). IRFs, together with state departments of transportation and the environment, would work to meet state, local and regional project priorities, evaluate project revenue potential and shepherd projects through the riskiest development and construction stages. States could agree to work on a regional or a multi-state basis, as could Native American nations.

The national infrastructure corporation and its subsidiaries will seek to become self-sustaining by charging fees for its services and by receiving project loan repayments. Among the new approaches the corporation would consider are loan guarantees and assistance to infrastructure revolving funds and national projects where financing is scarce.

The corporation would supplement existing programs and funding at the federal, state and local levels. Along with infrastructure revolving funds, the corporation would evaluate projects to

NEW STRUCTURES FOR INFRASTRUCTURE FINANCE



SOURCE: Commission to Promote Investment in America's Infrastructure establish credit-worthiness and revenue potential and to determine which of its services might be most appropriate to each project. By pooling these projects and continually leveraging funds, the corporation and IRFs can prompt new infrastructure investment with a minimum level of direct state or federal financial support.

The Commission understands that states now do not need to wait for a federal initiative to set up revolving loan funds or bond banks or other alternate financing mechanisms. Many states have already done so and the Commission recommends that the national infrastructure corporation work first to strengthen the efforts already underway by state, multistate, regional and Native American financing facilities. But the Commission also understands that states and builders have been slow to pick up the new financing tools suggested in the 1991 ISTEA legislation. In the words of William Allen, Senior Vice President of Parsons Brinckerhoff, Inc. on October 9, 1992, "The market needs a champion, the federal government, to push these new approaches."

By assuming some of the development phase risk traditionally born by the private sector, the national infrastructure corporation will share the financial, construction and operational risks traditionally shouldered by the public sector. By boosting overall project activity, the corporation and its companies would reduce the costs now associated with underinvestment, including transportation congestion and pollution.

Though the Commission focused its deliberat-ions on transportation and environmental projects financed with user fees or special levies, the national infrastructure corporation could assist a wide range of projects financed with either tax-exempt or taxable debt. This definition would include highways, bridges and tunnels; mass transit, intercity rail and airports; waterways, docks and wharves; water, sewer and wastewater systems; and solid and hazardous waste disposal facilities. It could include public benefit telecommunications and private water and air pollution control projects financed with taxable debt proceeds.

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Voices Before the Commission

A New Security for Pension Fund Investors

"Investment managers [for pension funds] prefer high quality instruments they are familiar with, securities that sell themselves without regard for whether they do good things, but returns such as job creation may well break ties among otherwise similar instruments."

JOYCE MADER, ESQUIRE
O'DONOGHUE & O'DONOGHUE
HEARING, OCTOBER 8, 1992

"Infrastructure government-guaranteed bonds are one way to begin to reform capital markets so that pension funds will be attracted to long-term investments. Pension funds have no incentive to invest in most public sector (infrastructure) bonds, because as tax-exempt entities, the tax-free municipal and state bond has no advantage."

TERESA GHILARDUCCI, PH.D.
ASSOCIATE PROFESSOR OF ECONOMICS, UNIVERSITY OF NOTRE DAME
HEARING, NOVEMBER 19, 1992

"A Ginnie Mae-type instrument becomes attractive to everyone, because risk and costs can be disaggregated and degrees of uncertainty can be spread among various investor groups."

DANIEL J. FUSS
EXECUTIVE VICE PRESIDENT, LOOMIS, SAYLES & COMPANY
HEARING, OCTOBER 8, 1992

"Any new type of security should meet two simple criteria. First, does the new security make sense and second, can the pension fund officer understand it? If it possesses these two characteristics, is a fixed-rate security with some type of government guarantee and is competitive on a rate of return basis compared to other investments with similar risk characteristics, then it has a good chance of competing for the $74 billion in U.S. domestic fixed income that CIEBA members have purchased."

JOSEPH PELLEGRINO
VICE PRESIDENT, ALUMINUM COMPANY OF AMERICA
COMMITTEE ON INVESTMENT OF EMPLOYEE BENEFIT ASSETS
FINANCIAL EXECUTIVES INSTITUTE
HEARING, OCTOBER 8, 1992

"In order to provide the level of investment security needed to attract pension fund participation in an infrastructure investment program, any such program must include federal guarantees — a guarantee backed by the full faith and credit of the federal government; a guarantee backed by a dedicated trust fund; or a guarantee backed by a dedicated revenue source."

THOMAS R. DONAHUE
SECRETARY-TREASURER, AFL-CIO
HEARING, NOVEMBER 19, 1992

"Trustees would be very anxious to have something like an infrastructure bond to point to. It needs to be something that says on it, 'This is an infrastructure bond.' "

CAROL O'CLEIREACAIN
COMMISSIONER OF FINANCE, CITY OF NEW YORK
HEARING, OCTOBER 29, 1992

"In most cases, public plan law is more restrictive with respect to pension plan investments than is ERISA. Nevertheless, the public plans have led the way in investing in economically targeted investments. I would expect them to lead the way in investing in the kinds of investments the Commission is exploring."

IAN LANOFF
BREDHOFF & KAISER
HEARING, OCTOBER 29, 1992

RECOMMENDATION 2.

2.1

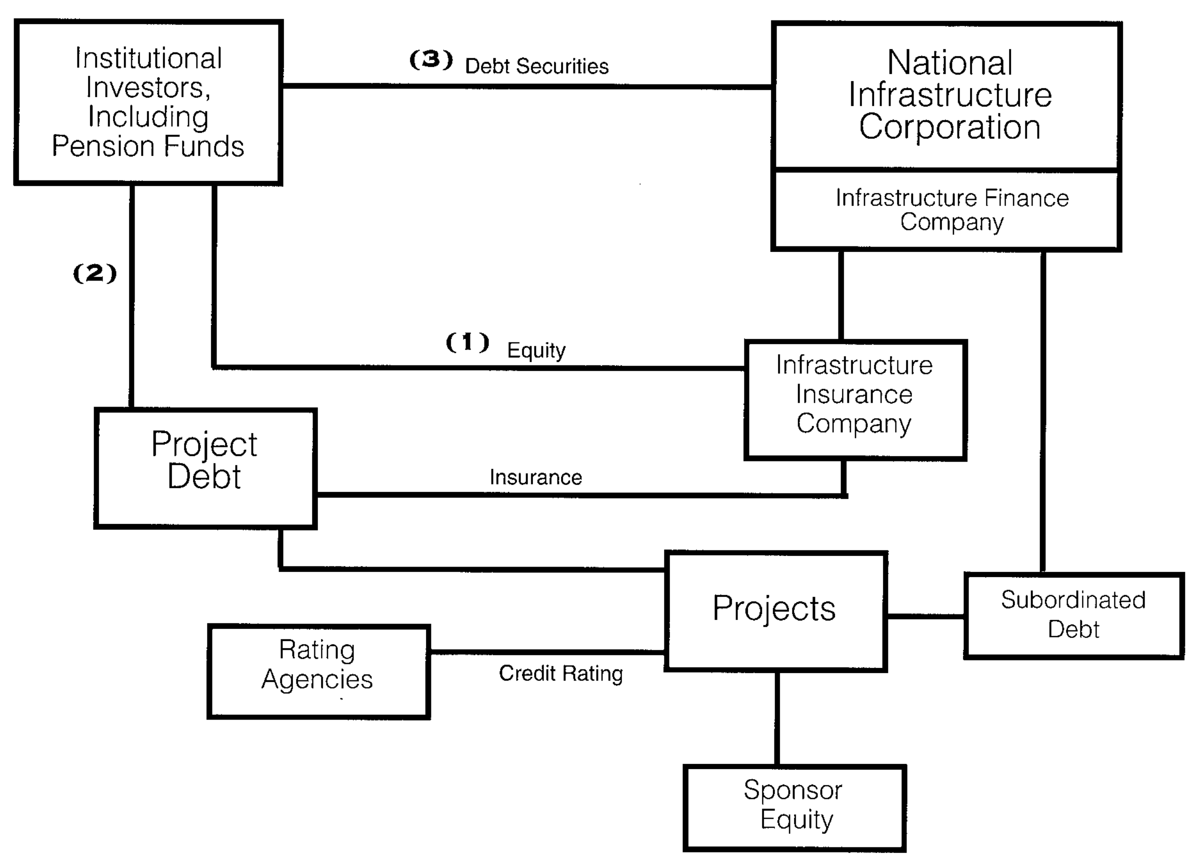
The national infrastructure corporation will offer institutional investors the opportunity to take equity in the infrastructure insurance company and to invest in the senior debt in taxable-rate financed projects insured by the company.

Institutional investors are valuable not only as potential sources of capital, but as potential new players in infrastructure finance that can bring the discipline of investment risk and return evaluations to infrastructure decision-making.

The **infrastructure insurance company** recommended by the Commission would offer institutional investors the opportunity to participate as equity investors, along with other public or private investors, in an insurance business that would be maintained at the highest standards, with prudent credit criteria, and supported by necessary management expertise and financial performance to maintain a Triple-A rating.

As the insurance company evaluated and insured project senior debt up to the highest investment grade, institutional investors would find

THREE WAYS INSTITUTIONAL INVESTORS, INCLUDING PENSION FUNDS, COULD PARTICIPATE IN INFRASTRUCTURE INVESTMENTS



SOURCE: Commission to Promote Investment in America's Infrastructure it easier to participate directly in project finance by purchasing long-term, taxable-rate debt instruments with established credit, liquidity and rates of return.

2.2

The corporation will broaden the market in investment grade securities to attract institutional investors, including four trillion dollars in pension fund assets, and to provide liquidity for project lenders.

The Commission's attempt to identify a new infrastructure security which would be attractive to both project borrowers and pension investors led it to consider new options for both taxable and tax-exempt rate securities. Lower interest rates available on conventional tax-exempt bonds issued for publicly owned and operated infrastructure projects lower total project costs. Higher taxable rates attract institutional investors, as do securities with an established secondary market for trading, since these securities assist a fund in maintaining its liquidity.

Pension funds clearly indicated the desire to have an option to invest in a new infrastructure security paying a competitive, taxable, market rate of return. Aside from investing in individual project loans guaranteed through the corporation's bond insurance program, institutional investors will have a future opportunity to invest in taxable-rate securities issued directly by the corporation. The corporation would use the proceeds to acquire project-specific debt, including that insured by the infrastructure insurance company. When a large volume of such assets is acquired, they could be securitized and sold in the market under the corporation's guarantee.

Some securities would be general obligations guaranteed by the corporation, while others could be pass-through securities. Such obligations of the corporation and its guarantee would be of federal agency caliber if the corporation had access to a limited line of credit of the U.S. Treasury. The Commission does not foresee a need for a full faith and credit guarantee of the U.S. government.

Purchases of the securities would be on a purely voluntary basis in accordance with the applicable fiduciary duties set forth in the federal ERISA statute for private plans and the comparable state and local law for state and local government plans. Experts indicate that there are no restrictions against such investments in infrastructure securities.

2.3

A security whose tax-free benefits flow through to fund beneficiaries at the time of distribution from retirement plans could attract investments from defined contribution pension programs, 401(k) plans and individual retirement accounts.

The Commission recommends that Congress consider amending federal tax laws to allow part or all of the investment earnings attributable to infrastructure securities to be distributed tax-free to pension plan participants upon retirement. Such a tax-free pass-through from a fund to its participants would produce a competitive after-tax market rate of return for the retirement fund participants, yet allow a project to obtain funding at levels commensurate with municipal bonds.

The security could be even more attractive if it were structured as a deferred annuity, thereby satisfying both early project cash flow requirements and the typical payout profiles on pension benefits. It is noteworthy that this sort of investment security would be particularly appropriate for defined contribution and 401(k) plans, which are the fastest growing sector of retirement assets.

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VOICES BEFORE THE COMMISSION

STRONGER FINANCING TOOLS AND PROGRAMS

"Tax-exempt securities represent the most efficient means of leveraging federal assistance for infrastructure, while maintaining state and local control over specific project decisions."

MICAH S. GREEN
EXECUTIVE VICE PRESIDENT, PUBLIC SECURITIES ASSOCIATION
HEARING, NOVEMBER 19, 1992

"Over the past 20 years, states and localities have become increasingly creative and resourceful in structuring revenue bond issues that leverage scarce public resources to the greatest extent possible by relying on user-fee financing. This trend is likely to continue, especially given recent developments in user-fee financing, such as the implementation of airport passenger facility charges and technological advances in road and bridge toll collection."

MICHAEL E. DOUGHERTY
CHAIRMAN, PUBLIC SECURITIES ASSOCIATION
LETTER, SEPTEMBER 22, 1992

"Recent legislative and regulatory requirements and restrictions on the use of tax-exempt bonds, even when a government pledges its own credit and revenues to the program, create barriers and increase costs of achieving the goal of raising the level of infrastructure investment to improve the health, safety and productivity of our people."

ARTHUR D. HEILMAN
BUREAU OF REVENUE, CASH FLOW AND DEBT, COMMONWEALTH OF PENNSYLVANIA
HEARING, OCTOBER 29, 1992

"There is a compelling public interest in re-evaluating the intergovernmental fiscal partnership and improving federal public policy toward state and local governments. The interest rate savings associated with municipal bonds that inure to state and local taxpayers — who are also federal taxpayers — stand as a symbol of the partnership between the federal government and state and local governments."

CATHERINE L. SPAIN
DIRECTOR, FEDERAL LIAISON CENTER, GOVERNMENT FINANCE OFFICERS ASSOCIATION
LETTER, NOVEMBER 3, 1992

"The one I would strongly encourage you to look at [is] this public purpose bond. That's the bond where you have a private operator running the waste water treatment facility, the solid land fill. That's where the problems are with the county judges, mayors, and governors in the states around the country right now. Those are practical problems that impact everybody. There's really not a real clear, sufficient way to address that problem. Redefining the public purpose, I think, would do that. If you want [a jump start], you can do it with one number that's in the tax code — the [bond] volume cap. All you would have to do is allow states to borrow from other states who have not used their volume caps. Nationwide I don't think the volume is being used up."

U.S. REPRESENTATIVE BERYL ANTHONY (D-AR)
CHAIRMAN, THE ANTHONY COMMISSION
HEARING, NOVEMBER 19, 1992

Recommendation 3.

3.1

Reviewing and modifying federal restrictions on the use of tax-exempt bonds for infrastructure projects could stimulate additional infrastructure bond finance activity.

Tax-exempt bonds are used by more than 16,000 issuing authorities as primary tools for financing infrastructure projects, often supported by tolls, user charges and other dedicated funds. But the ability to utilize tax-exempt debt is circumscribed if the private sector is involved in developing or operating new facilities.

The Congress has reviewed many of these contradictory restrictions in recent months. Among the specific steps considered favorably by Congress in H.R. 4210 and H.R. 11 in 1992, but not signed into law, were provisions to increase the annual issuance limit for bank-qualified tax-exempt bonds and to expand use of private-activity redevelopment bonds in areas designated as enterprise zones.

The Commission encourages further Congressional review and modification of federal restrictions on the use of tax-exempt bonds for infrastructure projects to broaden the development options for these projects and to promote efficient allocation of federal tax expenditures.

To stimulate investment in new transportation and environmental projects, the Commission encourages consideration of a new class of tax-exempt debt, a public benefit bond, in instances where the benefits to the general public are substantial, notwithstanding private sector participation. This would have the effect of applying the definition of facilities exempt from volume cap restrictions evenly across all environmental and transportation projects.

Among the additional steps recommended to the Commission are modifying arbitrage rebate rules where proceeds return to support infrastructure projects, returning the private involvement threshold to 25 percent and changing the definition of a qualified small bond issuer for bank investment purposes to one which issues under $25 million per year.

While a full-scale study of the fiscal impact of these recommendations is beyond the scope of the Commission, the consensus of the Commissioners is that new economic activity and the attendant potential increase in federal tax revenues over the long-term may prove cost-effective from a federal budgetary viewpoint, notwithstanding any temporary costs in the near-term of actual or foregone revenues. Changes of this kind also may contribute to greater policy consistency and serve to renew cooperative effort among various levels of government in infrastructure finance.

3.2

Reviewing and making incentives for taxable infrastructure investment more consistent, particularly depreciation rules, would prompt additional capital flows into infrastructure projects.

Even with some changes to the private activity restrictions on issuance of tax-exempt bonds, the Commission concluded that a significant portion of America's infrastructure is likely to be financed in the future on a taxable-rate basis. The defined depreciable life of assets, therefore, should be short enough to encourage investments in these assets not penalize infrastructure projects which have governmental participation. This concept of a shorter "useful life" may attract investment where emerging technologies hold promise for future infrastructure efficiencies.

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Mr. Daniel V. Flanagan, Jr.
Chairman
The Commission to Promote Investment
in America's Infrastructure
1600 Wilson Boulevard, Suite 200
Arlington, VA 22209-2505

Dear Chairman Flanagan:

As a Member of the Commission, I want to commend you in your role as Chairman in managing and producing our Commission Report. Like many infrastructure projects constructed by the building trades unions, this Report has been completed on-time, under budget and is a quality product. I also want to take this opportunity to thank my fellow Commissioners for their efforts in striving for consensus on a number of complex, difficult issues before the Commission.

While no group as diverse as this Commission can hope for unanimity of opinion, we have achieved agreement on the basic thrust of this Report -- namely, a need for a creative, focused effort in addressing our country's long-term infrastructure needs, especially in recommending a vehicle for pension fund investment. Even though I may have reservations concerning specific aspects of the Report -- particularly in the area of suggested tax reform -- I am convinced that a mechanism like the National Infrastructure Corporation is essential in effectively addressing our pressing infrastructure problems.

As a final note, I also strongly agree with the representatives of the builder/developer community who testified before the Commission seeking an active federal role in the entire infrastructure development process -- a "champion" as one prominent developer implored. With a strong federal role in the form of the National Infrastructure Corporation financing and coordinating an entire generation of projects, there are corresponding obligations which flow from that active federal presence. Not least of which among these are the federal prevailing wage requirements of the Davis-Bacon Act, generating a fair and even-handed treatment of construction workers involved in federally assisted construction. The International Union of Operating Engineers, as well as our counterparts in the other building trades craft unions, will work to ensure that any implementing legislation resulting from this Report will contain fair prevailing wage requirements.

Thank you again for your efforts as Chairman, and it has been my pleasure to serve on this Commission.

Sincerely,

Frank Hanley

Frank Hanley
General President

APPENDICES

Appendix A.
Members of the Commission to Promote Investment in America's Infrastructure

DANIEL V. FLANAGAN, JR., President, The Flanagan Group, Inc., Arlington, Virginia

Chairman, Appointed by the Speaker of the House

Daniel V. Flanagan was appointed by Speaker of the House of Representatives Thomas S. Foley to serve on the Commission to Promote Investment in America's Infrastructure, and was elected Chairman by his fellow Commission members. Mr. Flanagan serves as the President and Chief Executive Officer of The Flanagan Group, Inc., a governmental and public affairs consulting organization he founded in 1982. As coordinator and lead lobbyist for 35 major electric utility companies across the country, Flanagan led a successful effort to reform the Public Utility Holding Company Act and encourage a competitive market in electric generating capacity as part of the "National Energy Strategy" legislation passed by Congress and signed into law by President Bush in October 1992. Mr. Flanagan specializes in industry restructuring strategies and regulatory efficiency strategies, such as railroad and trucking deregulation, reclamation, telecommunications divestiture and employee benefits. He has worked on a range of complex issues including The Clean Air Act, Federal Energy Regulatory Commission/competitive bidding, nuclear licensing reform, public utility reform, and tax reform.

Mr. Flanagan currently serves as a member of the Board of the United States Navy Memorial Foundation, the Board of Directors of the California Institute for Federal Policy Research, appointed by Governor Pete Wilson, the Board of Regents of the Catholic University of America, and is a founding member of the Board of Directors of Oxford House, a successful national organization of homes for recovering alcoholics and addicts. Active in national Democratic Party politics, Mr. Flanagan has served as Chairman of various campaigns, PACs, and was a founder of the Democratic National Committee headquarters building on Capitol Hill. He is a native of San Francisco and a graduate of the United States Naval Academy.

THE HONORABLE NEIL GOLDSCHMIDT, President, Goldschmidt, Inc., Portland, Oregon

Member, Appointed by the Speaker of the House

Neil Goldschmidt was appointed by Speaker of the House of Representatives Thomas S. Foley to serve on the Commission to Promote Investment in America's Infrastructure. Mr. Goldschmidt currently has his own law practice focused primarily on strategic planning and problem-solving for national and international business clients. He also created and provides continuing leadership and support to both the Oregon Children's Foundation and the Cascade Center for International Business and Policy.

Mr. Goldschmidt is one of only a few Americans to serve as Governor, Mayor of a major city, Cabinet Secretary, and executive of a Fortune 500 corporation. As Oregon's Governor from January 1987 until January 1991, Mr. Goldschmidt led what has been called "The Oregon Comeback." During his term, Mr. Goldschmidt redesigned and invigorated the state's economic development efforts; improved the business climate through a series of regulatory reforms, including a major overhaul of the worker's compensation system; initiated an investment strategy to repair the state's deteriorating infrastructure; and restructured and expanded children's programs in the state.

Prior to his 1986 gubernatorial campaign, Mr. Goldschmidt was an executive of NIKE, Inc., serving as International Vice President and as President of NIKE Canada. Mr. Goldschmidt served as Secretary of Transportation for President Jimmy Carter from 1978 until January 1981 and spearheaded efforts to deregulate the airline, trucking and railroad industries. At the time of his appointment to the Cabinet, Mr. Goldschmidt had already served nearly seven years as Mayor of Portland. Elected in 1972 at the age of 32, he was the nation's youngest big-city mayor.

FRANK HANLEY, General President, International Union of Operating Engineers, Washington, D.C.

Member, Appointed by the Senate Majority Leader

Frank Hanley was appointed by Senate Majority Leader George Mitchell to serve on the Commission to Promote Investment in America's Infrastructure. Mr. Hanley is General President of the International Union of Operating Engineers (IUOE).

He has been a member of the New York IUOE Local Union 15 since 1948, and was asked by General President Joseph J. Delaney to join the IUOE staff in 1958 as Assistant to the General President. He was elected to General Vice President in 1975, elected to Secretary-Treasurer in 1979, and elected to the General Presidency in 1989.

In 1990, Mr. Hanley was elected to the Governing Board of the Building & Construction Trades Department and to the AFL-CIO Executive Council as Vice President.

THE HONORABLE KAY BAILEY HUTCHISON, Treasurer, State of Texas, Austin, Texas

Member, Appointed by the President

Kay Bailey Hutchison was appointed by President George Bush to serve on the Commission to Promote Investment in America's Infrastructure. In 1990, she made history in Texas as the first Republican woman ever elected to statewide office as State Treasurer. As a member of the Texas House of Representatives, Mrs. Hutchison represented the Houston area from 1972 until 1976. One of her main interests in the Legislature was transportation. She co-authored the bill to create the first mass transit authorities in Texas for Houston and San Antonio, and co-authored the reorganization of the Texas Department of Highways and Public Transportation in 1975.

In 1976, Mrs. Hutchison was appointed by President Gerald Ford as Vice Chairman of the National Transportation Safety Board, also serving as Acting Chairman during her two-years on the Board. In 1978, Mrs. Hutchison moved to Dallas and became Senior Vice President and General Counsel of RepublicBank Corp. She later founded Fidelity National Bank of Dallas and owned McCraw Candies, Inc., a manufacturing company with national distribution which she sold in 1988.

Mrs. Hutchison is currently a member of the Anthony Commission on Public Finance and Chairman of the National State Debt Management Network.

F. WOODMAN JONES, Chairman, Atlantic Capital Corporation, Portland, Maine

Member, Appointed by the Senate Majority Leader

F. Woodman Jones was appointed by Senate Majority Leader George Mitchell to serve on the Commission to Promote Investment in America's Infrastructure. He is Chairman and Chief Executive Officer of Atlantic Capital Corporation. Atlantic Capital develops and manages operating business ventures and also manages a Fund which invests in publicly-traded securities, primarily equities. In addition, Mr. Jones serves on a number of corporate Boards and consults on strategic planning issues.

Mr. Jones has been devoted to improving the lives of disadvantaged children. He founded the Horizon Foundation, which makes grants to children who may realize their social or academic potential if a special need is addressed. As Chairman of the Maine Human Services Council, he helped create the Maine Interdisciplinary Team, which helps assure the coordinated, effective delivery of children's services. He was Vice Chairman of the Juvenile Code Commission, which comprehensively revised Maine' statutes relating to juveniles. He is also a Director of Camp Susan Curtis and the Boys & Girls Clubs of Greater Portland.

Before founding Atlantic Capital in 1980, Mr. Jones practiced tax and corporate law in Portland, Maine and Washington, D.C. Prior to that, he was a member of the professional staffs of the U.S. Senate Judiciary Committee and Senator Birch Bayh.

FRANCIS X. LILLY, President, Bear Stearns Fiduciary Services, Inc., Managing Director, Bear Stearns & Co., Inc., Washington, D.(

Member, Appointed by the House Minority Leader

Francis X. Lilly was appointed by House Minority Leader Robert Michel to serve on the Commission to Promote Investment in America's Infrastructure. Mr. Lilly is engaged in fiduciary activities from two primary perspectives. First, as President of Bear Stearns Fiduciary Services, Mr. Lilly deals with the entire range of investment-related activities of pensio employee stock ownership and welfare benefit plans as well as other large institutions with fiduciary responsibility. Seconc he is a Director of Custodial Trust, a FDIC-insured trust company which delivers the full range of trust and custody service: to institutions.

Prior to joining Bear Stearns, Mr. Lilly served as the Solicitor of Labor from May 1983 until December 1985, and was responsible for reviewing all legal activities of the Department of Labor. He served as Legal Advisor to both Secretaries of Labor Ray Donovan and Bill Brock. He was also responsible for implementing the enforcement decisions of various Labor Department agencies responsible for enforcing more than 130 federal laws. Much of this activity focused on Departmenta action under the Employment Retirement Income Security Act of 1974 (ERISA) in the areas of regulation, litigation and policy.

Mr. Lilly also serves on the Board of Directors of the corporate general partner of JHM Mortgage Securities, L.P., a NYSE-traded Master Limited Partnership as well as on the boards of several educational and charitable organizations.

RALPH L. STANLEY, Manager of Infrastructure Development, Bechtel Enterprises, Inc., San Francisco, California

Secretary, Appointed by the Senate Minority Leader

Ralph L. Stanley was appointed by Senate Minority Leader Robert Dole to serve on the Commission to Promote Investment in America's Infrastructure. He is currently the Manager of Infrastructure Development for Bechtel Enterprises, Inc.

In 1988, Mr. Stanley founded and served as Chief Executive Officer and Chairman of the Board of Directors of Toll Roac Corporation of Virginia (TRCV), overseeing all components of the Dulles Toll Road Extension project in Northern Virginia including the financing, legal and regulatory processes. Earlier, he was Chief Executive Officer of the Municipal Development Corporation (MDC) where he oversaw the design, financing, construction and operation of the three million dollar Fargo to Moorhead Bridge, the first privately owned and operated bridge project in the United States in 50 years.

Previously, Mr. Stanley was Administrator of the Urban Mass Transportation Administration of the Department of Transportation from 1984-1987. He had also been appointed by President Reagan to the President's Commission on Privatization and is a member of the Privatization Council's Board of Directors. Prior to assuming his position as Administrator, Mr. Stanley served as Chief of Staff to Secretary of Transportation Elizabeth Dole and Special Assistant for Policy to her predecessor, Drew Lewis.

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Appendix B. Major Background Studies

Infrastructure

"Alternate Financing Mechanisms for Environmental Programs," State Capacity Task Force, U.S. Environmental Protection Agency, Office of Administration and Resources Management (August 7, 1992)

"Delivering the Goods: Public Works Technologies, Management, and Financing," Congress of the United States, Office of Technology Assessment (April 1991)

"Financing Federal-Aid Highways," Federal Highway Administration, U.S. Department of Transportation (May 1992)

"Fragile Foundations: A Report on America's Public Works," Final Report to the President and the Congress, National Council on Public Works Improvement (February 1988)

"Hard Choices," Joint Economic Committee, United States Congress (1984)

"Narrowing the Gap: Environmental Finance for the 1990s," Environmental Financial Advisory Board, U.S. Environmental Protection Agency (May 1992)

"New Directions for the Nation's Public Works," Congressional Budget Office (1988)

"Paying for Highways, Airways, and Waterways: How Can Users Be Charged?" Congressional Budget Office (May 1992)

"Preserving the Federal-State-Local Partnership: The Role of Tax-Exempt Financing," The Report of the Anthony Commission on Public Finance (October 1989)

"Report of the Private Sector Advisory Panel on Infrastructure Financing," Committee on the Budget, United States Senate (August 1987)

"Toward a Federal Infrastructure Strategy: Issues and Options," Advisory Commission on Intergovernmental Relations (August 1992)

Pension Funds

"Benefits Bargain: Why We Should Not Tax Employee Benefits, " Association of Private Pension and Welfare Plans (May 1990)

"Competitive Plus: Economically Targeted Investments by Pension Funds," A Study of the Feasibility of Implementation of Recommmendations Made by the Governor's Task Force on Pension Fund Investment," Lee Smith, Don Reed and Sandra Kim, New York State Industrial Cooperation Council, State of New York (February 1990)

"Economically Targeted Investments: An ERISA Policy Review,"Report of the Work Group on Pension Investments, Advisory Council on Pension Welfare and Benefit Plans, U.S. Department of Labor (November 1992)

"Fiduciary Duties and Other Laws Applicable to Public Retirement Systems," Cynthia L. Moore, National Council on Teacher Retirement (September 1992)

"Gridlock Revisited on the Road Toward Pension Simplification," Association of Private Pension & Welfare Plans (September 1991)

"Return on Investment: Pensions Are How America Saves, " John B. Shoven, Association of Private Pension and Welfare Plans (September 1991)

"Survey of State and Local Government Employee Retirement Systems," Paul Zorn, The Public Pension Coordinating Council (November 1991)

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Appendix C. Hearing Schedule and Witness List

September 24, 1992
Senate Committee on Environment and Public Works
406 Dirksen Senate Office Building

Joseph M. Giglio, Jr.
Executive Vice President
Smith, Barney, Harris Upham & Co. Inc.

Gerald P. McBride
Executive Vice President
Prudential Securities
Public Securities Association

R. Fenn Putnam
Managing Director
Lehman Brothers

Ted Sobol
Vice President
Kidder, Peabody & Co.

Ann C. Stern
President and Chief Executive Officer
Financial Guaranty Insurance Company

September 25, 1992
Senate Committee on Environment and Public Works
406 Dirksen Senate Office Building

William Chew
Managing Director, Municipal Finance
Standard & Poor's Corporation

Markus K. Christen
Head of Global Project Finance
Credit Suisse

Martin K. Clapper
Vice President, Project Finance
Canadian Imperial Bank of Commerce

Scott S. Davis
Head of Public Finance
Credit Suisse

Barry P. Gold
Vice President, Project Finance
Citibank

Michael J. Wynne
Associate Director, Project Finance
Barclays Bank plc

October 8, 1992
House Committee on Public Works and Transportation
2167 Rayburn House Office Building

Stephen Coyle
Chief Executive Officer
AFL-CIO Pension Investment Program

Stephen Cummings
Ennis, Knupp & Associates

Roy W. Dickinson
Executive Assistant to the International Secretary
International Brotherhood of Electrical Workers

Daniel J. Fuss
Executive Vice President
Loomis, Sayles & Co., Inc.

Jack Johnson
Finance Director
International Union of Operating Engineers Central Pension Fund

Bruce Kennedy
Vice President
STW Fixed Income Management

Martin Levenson
Segal Advisors, Inc.

Joyce Mader, Esq.
O'Donoghue & O'Donoghue

Judith F. Mazo, Esq.
The Segal Company, Inc.

Joseph Pellegrino
Vice President
Aluminum Company of America
Committee on Investment of Employee Benefit Assets

October 9, 1992
House Committee on Public Works and Transportation
2167 Rayburn House Office Building

William Allen
Senior Vice President
Parsons Brinckerhoff, Inc.
American Road and Transport Builders Association

Robert Band
Vice President, Project Development
Perini Corporation

Hans Been
Vice President
Bechtel Enterprises, Inc.

Mark W. Thompson
Manager, Project Development
Morrison Knudsen Corporation

October 29, 1992
U.S. Department of Transportation
400 Seventh Street, SW
Room 4436

Arthur D. Heilman
Director, Bureau of Revenue,
Cash Flow and Debt
Commonwealth of Pennsylvania

Christian R. Holmes
Assistant Administrator and Chief Financial Officer
U.S. Environmental Protection Agency

Ian Lanoff
Partner
Bredhoff & Kaiser

Richard J. Lobron
President
Lobron Consultancy, Ltd.

Robert L. Mitchell
President, Mitchell Communications Circle
Former Chairman, Michigan Task Force on Public Investment

Carol O'Cleireacain
Commissioner of Finance
City of New York

Philip Shapiro
Chief Financial Officer
Massachusetts Water Resources Authority

Oliver R. Sockwell
President and Chief Executive Officer
College Construction Loan Insurance Association (Connie Lee)

October 30, 1992
U.S. Department of Labor
200 Constitution Avenue, NW
Room C-2313

Norman Benedict
Deputy Executive Director for Investments
Colorado Public Employees Retirement Association

Marshall J. Breger
Solicitor
U.S. Department of Labor

Patricia M. Eckert
Commissioner
California Public Utilities Commission

Stephen S. Smith
Oregon Deputy State Treasurer

November 19, 1992
Senate Committee on Banking,
Housing and Urban Affairs
538 Dirksen Senate Office Building

The Honorable Beryl Anthony, Jr.
U.S. House of Representatives
The Anthony Commission

Thomas R. Donahue
Secretary-Treasurer
AFL-CIO

Teresa Ghilarducci, Ph.D.
Associate Professor of Economics
University of Notre Dame

Micah S. Green
Executive Vice President
Public Securities Association

The Honorable John Horsley
Commissioner, Kitsap County, Washington
Rebuild America Coalition

The Honorable Lucille Maurer
Treasurer, State of Maryland
Rebuild America Coalition

Steven Steckler
Senior Manager
Price Waterhouse

John A. Tatom
Assistant Vice President
Federal Reserve Bank of St. Louis

Peter Tufo
Chairman and Chief Executive Officer
New York State Thruway Authority

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FOR THE RECORD

For more information about proceedings and deliberations of the Commission
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